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DODGE'S GEOGRAPHY OF MINNESOTA

By

CHRISTOPHER WEBBER HALL

Professor of Geology and Mineralogy, the University of Minnesota, Minneapolis, Minnesota

and

EDWARD M. LEHNERTS

Professor of Geography, the University of Minnesota, Minneapolis, Minnesota

Part I

MINNESOTA AS A WHOLE

Part II

THE GROWTH AND DEVELOPMENT OF CITIES

Part III

STATISTICS AND AIDS TO TEACHERS



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THE INTRODUCTION

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HOME Geography is usually the first work to be taken up in any study of geography because beginning students need to know first the geography of the locality in which they live, in which they are most interested, and with which they are most familiar from personal experience. The results gained from a study of the region they can see gives them the ability to understand remote regions that can only be pictured or described to them. Because our own home locality is of most interest to us is also a reason why we need to know it better than we need to know any other region of the world. Hence at some time during the school course it is most valuable to make a careful study of the state or group of states in which we live that we may have a better understanding of the geography about us than we can get from the necessarily brief accounts given in a text-book of geography.

In a text-book of geography we study the relation of one state or group of states to the whole country of which our home region is a part, and our commercial relations to the world as a whole. It follows that in such a treatment the characteristics that distinguish our own home regions must largely be lost to sight in the consideration of the great features that distinguish the country as a whole.

In a special text-book devoted to one state or group of states we can learn more about our own region, its important surface features, its climate, the occupations of its people, its products, its local commerce, its history, its chief cities, and many other features of great interest to us. Hence we need to make a special study of our home locality after we have studied the larger region of which it is an important part. A local geography is not only valuable for study in school that we may know well the region about us, but it is valuable also as a reference volume to which we can refer for facts about our own state in our homes whenever in our reading or conversation some question arises concerning our own state which needs to be answered at once.

In this text-book the surface features, the climate, the soil and other natural resources which determine the occupations of the people are studied first because they are the large features which determine the distribution and success of industries. One of the great lessons the student learns in geography is Man's absolute dependence upon Nature for his existence. In this state, as in other regions, topography and climate pointed out the path of development that communities must follow in order to make sure their existence within its borders. In the pages that follow, the student finds traced the fundamental conditions that have moulded the life of the state. After these come the historical events that are landmarks in its growth, and then the study of the industrial and commercial features is taken up. To these, which explain the reasons for the development and growth of the larger cities, and which show us why our own region is important to the country as a whole, careful attention has been given.

Certain facts like the distribution and character of educational institutions, the distribution of congressional districts, and the form of government in the region are included, because our knowledge of our own locality would be incomplete without them. These fittingly illustrate the political unity that binds together the interests of all the individuals who form the body-politic which we call the state.

That this book may prove especially valuable as a reference work which may properly be made a part of the family library for constant consultation on many points, carefully prepared diagrams, tables of statistics, and references to further reading have been included.

RICHARD ELWOOD DODGE.

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A Minnesota pine forest. The road shows the preparation for cutting.

THE GEOGRAPHY OF MINNESOTA

By CHRISTOPHER WEBBER HALL, *Professor of Geology and Mineralogy, the University of Minnesota, Minneapolis,*
and EDWARD M. LEHNERTS, *Professor of Geography, the University of Minnesota, Minneapolis.*

I. MINNESOTA AS A WHOLE

Location. Minnesota occupies a central position in North America, lying equally distant from Beaufort Sea and from the Caribbean, and halfway between the Gulf of California and the Gulf of St. Lawrence. It is the crest of non-mountainous North America, since the sources of three great river systems, the Nelson, the St. Lawrence, and the Mississippi, are within its borders. (Adv. Geog., Fig. 173.)

Mathematically placed, the state lies between parallel $43^{\circ} 30'$, its southern boundary, and parallel 49° , which forms the western part of its northern boundary. The northernmost point of the state lies within the Lake of the Woods (Fig. 2), reaching parallel $49^{\circ} 23' 50.28''$. This is also the most northerly point in the boundary between the United States and Canada, and attains 22.85 miles north of the 49th parallel, the great boundary line between these two countries, from the Lake of the Woods to the Pacific Ocean. (Adv. Geog., Fig. 192.)

The easternmost land in Minnesota is $89^{\circ} 34'$ west longitude, but the boundary between this state and Michigan lies $30'$ farther eastward in Lake Superior. Westward, the state reaches $97^{\circ} 12'$ west longitude. (Fig. 2.)

Size. The total area of Minnesota is 87,196 square miles. This area includes that portion of Lake Superior—2,514 square miles—adjoining and within the political boundaries of Minnesota. The remainder of the water surface, embraced in the rivers and lakes of the state other than Lake Superior, has an area of 3,824 square miles. This leaves a land surface of 80,858 square miles, or about 51,730,000 acres; enough land to make more than 323,000 farms of 160 acres each, the largest acreage that can be taken by a single citizen under the national homestead laws.

In comparison with Minnesota, only nine other states contain more square miles, and only eighteen states have been longer in the Union.

The greatest length of the state from north to south, between Iowa and the northernmost point in the Lake of the Woods, is 408 miles. The greatest width, between

St. Vincent and Pigeon Point, is 357 miles. On account of the westward curve of the St. Croix River the width across the state, from Big Stone Lake to Lake St. Croix, or from Ortonville to Stillwater, is less than 180 miles. (Fig. 2.)

Surface. Although Minnesota is best known as a border state lying between the prairies and the forests, there is much



FIG. 1. A relief map of Minnesota.

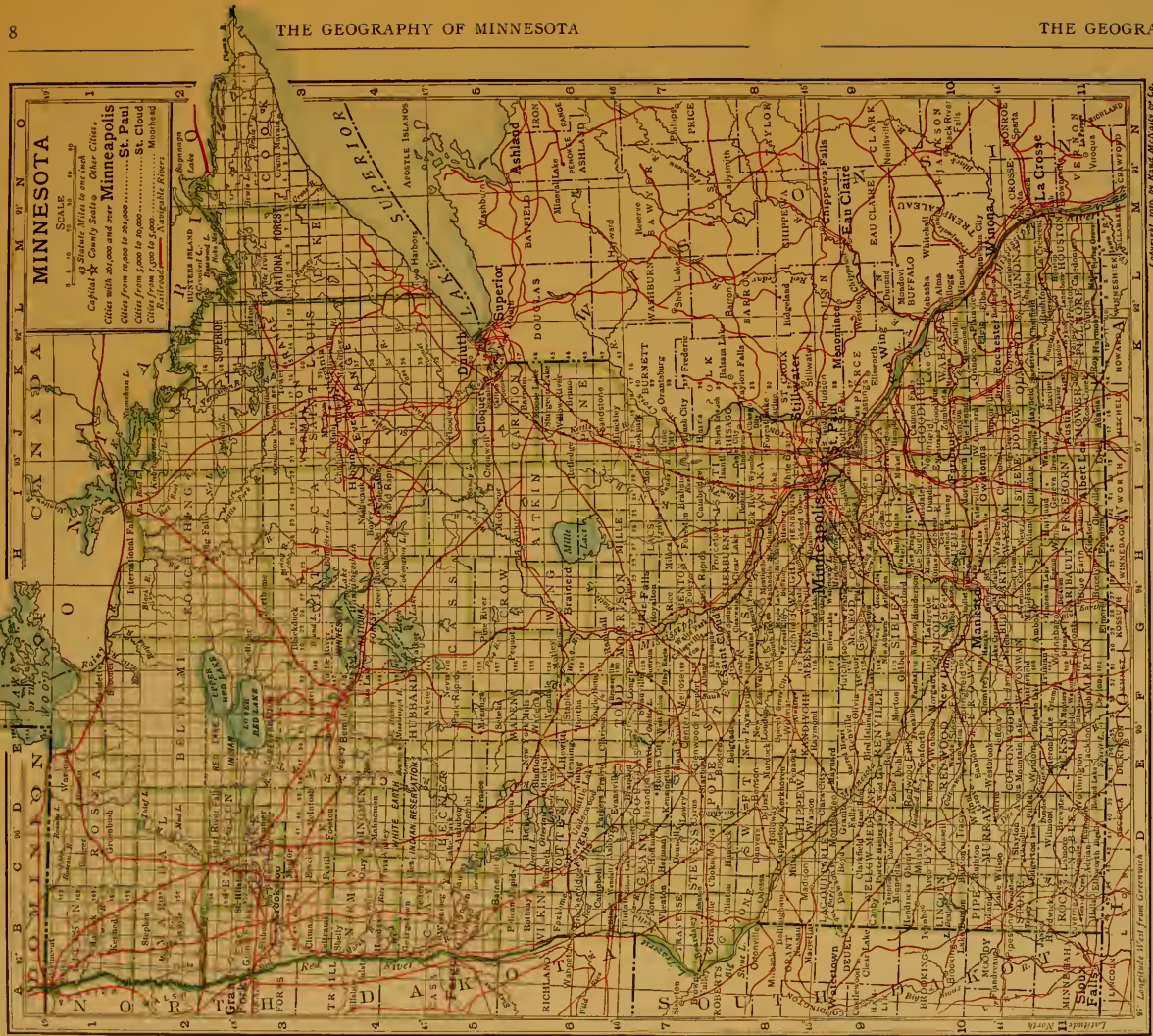


FIG. 2. A political map of Minnesota.

diversity in the surface features of the commonwealth. (Figs. 1 and 3.)

Extending from the Mississippi River westward to the Blue Earth River Valley and from the Iowa boundary northward to St. Paul and Minneapolis, lies an extensive and comparatively level prairie. That portion lying close to the Mississippi River, and chiefly within Houston County, is without glacial drift, being covered with the decomposed rock material of the region and with wind-gathered loess.

The western portion of this division, comprising Freeborn, Waseca, Steele, Rice, Scott, and Dakota counties, has a rougher and more uneven surface, its physical features being due in large measure to the moranic character of the surface rocks. Between this moranic belt and the eastern boundary of the state, the glacial drift after gradually disappears until the driftless area of Hous-

ton County is reached. The climatic conditions in the moranic central part of the state, from the north nearly to the Iowa border, are favorable for a heavy growth of hard-wood forest. Toward the east, however, trees seldom grow beyond the size of the scrubby oaks which dot the prairies. Southeastern Minnesota was once devoted to wheat raising, but now is chiefly given over to grazing and dairying; hence grass has become the principal crop.

Farther westward, across the beautiful shallow valley drained by the Blue Earth River and its tributaries, lie the long, gentle slopes called the Coteau des Prairies, Jackson, Nobles, Murray, Lyon, Lincoln, western Yellow Medicine and Lac qui Parle counties form part of this long belt of high ground which extends from central Iowa northwest into North Dakota. (Figs. 1 and 2.)

Beyond the summit of the Coteau des Prairies the slope of the land is westward, and its streams find the

Missouri River. Along the eastern side the land drains to the Minnesota River, the streams flowing across a gentle slope from fifty to seventy-five miles in width. (Fig. 3.) The highest ground of the Coteau lies 2,000 feet above the level of the sea.

This region attracted the attention of the early explorers, who, viewing its treeless surface glistening in the sun, named it the "Shining Mountains." This, like the southeastern corner of the state, was first extensively devoted to wheat raising, but at the present time is used for more diversified farming. Stock raising and the growing of corn, oats, barley, and flax have now practically taken the place of the earlier and exclusive wheat-raising industry.

Following the Mississippi River from the Iowa border, where that stream leaves Minnesota territory, to St. Paul, there extends a valley from six to two miles wide. (Fig. 3.) Of this valley, until the mouth of the St. Croix River is reached, only that portion west of the main channel of the Mississippi is in Minnesota. Above the mouth of the St. Croix, the valley lies entirely within the state.

The valley of the Minnesota from St. Paul to Browns Valley is a flood plain from one to six miles wide. This plain is extremely fertile and is the center of extensive agricultural industries. The divide at Browns Valley separates the waters of the Mississippi Basin from those of the Hudson Bay.

(Fig. 3.) This divide is only 962 feet above the sea. Within the Mississippi-Minnesota Valley lives a large population. Here are located the cities of Winona, Wabasha, Red Wing, Hastings, St. Paul, St. Peter, Mankato, New Ulm, and a score or more of smaller towns.

The Upper Mississippi Valley comprises that portion of the state stretching from the confluence of the Mississippi and Minnesota rivers at Fort Snelling to Lake Itasca, the

source of the Mississippi. Lumbering was the early industry of this region, comprising an area of more than 20,000 square miles.

The highest land of the Upper Mississippi Valley is along the border line between the Mississippi and the Red River. The approximate altitude here is between 1,500 and 1,750 feet; the lowest point is at the mouth of the Minnesota River, where 688 feet is the height at low water. Around the sources of the Mississippi lie some of

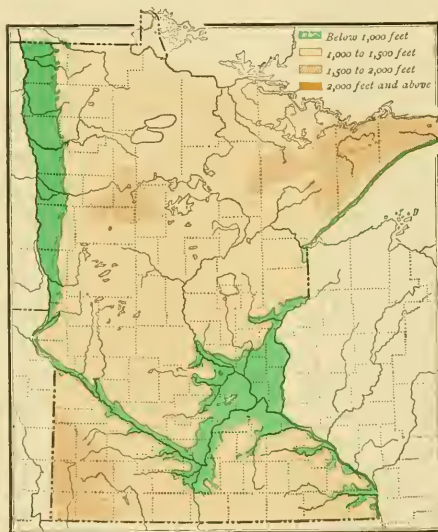


FIG. 3. A physical map of Minnesota.

the largest and most beautiful lakes in Minnesota. Lake Itasca (Fig. 15) and the region immediately surrounding it are conserved for the use of the people of the state as Itasca State Park.

Going down the river, lakes Bemidji, Cass, and Winnibigoshish lie in its course. Beautiful Leech Lake, Pokegama Lake, and hundreds of other lakes adjacent to the river's channel, add to the wonderful diversity of landscape for which the Upper Mississippi Valley is justly famed.

East of the Mississippi and farther south lies Mille Lacs with 200 square miles of water surface, the source of Rum River, one of the important tributaries of the Mississippi.

The greater part of the Upper Mississippi area consists of morainic belts, ancient lake basins now filled, stretches of sandy soil, and extensive marshes. Its altitude varies from 688 feet, the low-water mark at Fort Snelling, to 1,750 feet, the highest land on the divide between the Mississippi and the Red River basins. The first industry of the region was lumbering. In the Mississippi Valley and the Valley of the St. Croix, this industry not only led to early settlement but also largely directed the course of population.

In the northwestern corner of the state lies a tract of land extending from the forested region of the Upper Mississippi westward beyond the region of trees into the great prairie of the Red River Valley. The land slopes down gently from an altitude ranging from 1,200 to 1,750 feet to that of the Red River itself, which leaves the state at 753 feet. (Fig. 3.) The zone between prairie and forest cuts this region into two nearly equal parts.

The rich soils of the Red River Valley (Fig. 4) were formed by the laying down of lake muds in a very large lake which existed at the close of the Glacial Period. The eastern portion of the valley presents a

gentle slope, but the western portion is an almost level plain several thousands of square miles in extent. Along the eastern border of this plain extends a series of well-defined gravel ridges. These are the beach lines of the shore of ancient Lake Agassiz. They afford an easy means of outlining the eastern border of this remarkable glacial lake. Outside and to the east of these beaches lies a moderately rolling prairie, which gradually disappears in the thickening forests of the Upper Mississippi and Rainy River valleys.

Northeastern Minnesota is much rougher and more uneven than any other division of the state. Its lowest level is the shore of Lake Superior, 602.2 feet above the sea, and its highest point (2,230 feet) is a summit in the Misquah Hills of northern Cook and Lake counties. These extremes are also the lowest and highest points within the state.

In this portion of the state the covering of glacial drift is so thin that frequently the underlying rocks are exposed. Hence this is regarded as the rocky region of the state. Along the northern side the rocks locally seem to lie in long, narrow ridges, producing parallel ranges of hills.

Just north of the Lake Superior shore are seen the Sawteeth Mountains, forming the only mountain range in the state. The summits stand like a row of saw teeth, reaching a height of from 800 to 1,200 feet



FIG. 4. Scene on a farm in the Red River Valley. Here the steam plow is used in preparing great tracts of land for planting.

above the lake. In this part of the state lie great stores of iron ore, building stone, clay, and other materials which are beginning to be developed.

Drainage. Owing to its central position in the continent (Adv. Geog., Fig. 183), the rivers of Minnesota flow in several different directions. (Fig. 1.) In the northwestern portion of the state the waters are carried northward into Hudson Bay by the Red River and the Rainy River, which belong to the Nelson System. These streams drain approximately 28,040 square miles. In the northeastern corner of Minnesota is an area of 7,175 square miles that is tributary to Lake Superior. This area is a part of the St. Lawrence River Basin. The central and southern portions of the state drain to the Mississippi.

The drainage of the state comprises the following subdivisions:

1. The Nelson System is represented in the northern part, west of the 90th meridian, by a large number of short streams flowing into the chain of lakes and rivers that form the International Boundary (Fig. 2), and by the Red River, which rises only twelve or fifteen miles west of the source of the Mississippi River. These streams together drain more than 28,000 square miles of Minnesota territory to the north.

2. The Mississippi River System, which has its source in Lake Itasca, a picturesque sheet

of water in the central part of the state (Fig. 5), is the most important drainage channel. This river, with all its tributaries, drains 50,000 square miles and more to the Gulf of Mexico. Rock River and several smaller streams in the southwestern part of the state flow into the Missouri, and through this great river into the Mississippi.

3. The St. Lawrence River System, beginning among rocky hills in northeastern Minne-

sota as the St. Louis River, drains between 7,000 and 8,000 square miles through the chain of the Great Lakes and the Gulf of St. Lawrence into the Atlantic Ocean.

In the southeastern corner of the state the streams have cut deep channels in the surface of the land and present a maturing drainage. The general level of the prairies represents a former lowland, below which, owing to an elevation of the land, the streams have cut down several hundred feet and are still steadily cutting. In this process valleys have been continually



FIG. 5. At the outlet of Lake Itasca, the beginnings of the Mississippi River.

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broadened and more bottom lands made available for agricultural and commercial uses.

The remainder of the state is much less dissected than the southeastern corner. Yet the streams everywhere have channels so young that they are still actively cutting down their beds. Fine examples of such young streams are found all over the state. (Fig. 6.) According to the estimates of geologists, the ice of the Glacial Period

retreated from Minnesota only a few thousand years ago. The southeastern corner of the state, embracing Houston and Winona counties and portions of several other adjoining counties, was never covered so deeply with ice as were the more northern and western portions. This explains the wide difference between the gently-rolling, mature surface of southeastern Minnesota and the more youthful surface, with steep slopes and active streams, shown in other portions of the state.

The divides separating the several drainage basins (Fig. 1) are not high ridges of ground but simply elevated surfaces from which the water flows when the snows melt or the surplus rain water is to be removed. A divide may be seen on almost any farm in the state or even from the windows of the school-houses. (Fig. 7.) It marks the flow of the surface water in one direction or another even when the streams on either side of it are the common branches of one larger stream, creek, or river. Only where such divides



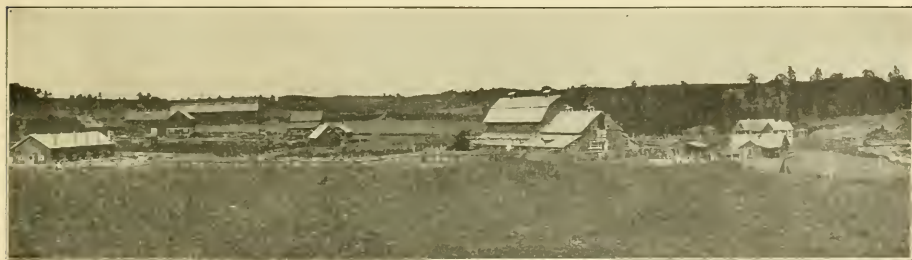
FIG. 6. *Scene on the Big Cottonwood River, showing a degrading river vigorously at work.*

part the waters of the principal rivers of the state and their basins are they given place on the map.

Lakes. No story of Minnesota would be complete without making prominent its remarkable lakes, as they are one of the most striking scenic features of the state. They not only contribute beauty of the

highest order to the landscape, but perform many other functions. They furnish food and water for all animal life; they serve as reservoirs of power for the manufacturer; they afford lines of transportation for many of the state's products, and offer thousands of spots where people may go for rest and recreation in the summer.

Lakes are vast storehouses of heat, receiving this energy from the intense rays of the sun in summer and giving it back gradually to the air during the shortening autumn days, thus tempering the climate. Ice, which has become a necessity of modern life, is taken in vast quantities and of the highest purity from hundreds of lake surfaces scattered through nearly every portion of the state. (Fig. 2.)



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FIG. 7. *View of a great dairy farm on land originally covered with white-pine forest. In the background may be seen a divide or watershed.*



FIG. 8. A map of Lake Minnetonka, a typical glacial lake in the maturity of its lake beauty.

The lakes of Minnesota are not evenly distributed. In some parts of the state, as in the great Red River Valley to the northwest, or in the physiographically more mature region of the southeastern corner, one may traverse entire counties without seeing a lake beyond the occasional sink holes, or local depressions, where limestones beneath have been removed by the action of rains or running water.

In the southwestern part of the state more lakes are seen than in the two subdivisions just mentioned, yet even here the lakes are very scattering. Everywhere throughout the state, and more particularly where the lakes are few in number, former lakes, by being filled with vegetation and silt (Fig. 9), have been changed to swamp areas or have entirely disappeared.

Within a tract beginning near the St. Croix River in Chisago and Washington counties, thence passing near the cities of

Minneapolis and St. Paul, and extending northwestward to the edge of the Red River Valley, then turning nearly a right angle and extending to Ontario across the central and northeastern portions of the state, lie thousands of lakes. These lakes are of every possible shape and size, from mere drinking pools for cattle to sheets of water many square miles in extent. (Fig. 8.) The largest lake lying wholly in Minnesota is Red Lake, with an area of more than 440 square miles. Some of these lakes are very shallow, while others are hundreds of feet in depth.

The origin of Minnesota's lakes is not far to seek. The greater number has resulted from the uneven distribution of glacial drift, and has existed since the final retreat of the ice of the Glacial Period. Indeed, we have evidence that some of them existed at the foot of the ice streams as sheets of water formed between the ice front and a bordering



FIG. 9. A swamp area partially covered with spruce, balsam, and tamarack.

ridge of land across which no channel existed. Large numbers of the lakes thus formed soon disappeared as the ice retreated and lower outlets were uncovered. Thousands still exist, lying nestled in the midst of higher and uneven ground, where they, too, are slowly disappearing through the accumulation of silt and weeds or by draining.

Other lakes are formed along streams where inflowing creeks and rivers bring quantities of silt until the main channel of the stream is blocked and the volume of water held back. Such is Lac qui Parle, formed by the silting muds and sand brought into the channel of the Minnesota River by Lac qui Parle River. Lake St. Croix is another example. Here the Mississippi River carries a volume of silt and deposits it in the mouth of the St. Croix River at Point Douglas. The most notable example, however, is Lake Pepin. This lake is formed by the broadening and deepening of the Mississippi River through silt that is gathered and brought down by the Chippewa River from higher land in Wisconsin. (Fig. 10.) This silt, deposited in the channel of the Mississippi in front of Wabasha, has

set back the waters of this great river for twenty-five miles. Other illustrations will be found as the study of the state is carried forward.

Still other lakes are those walled in by ancient rocks. There are two types of these rock-walled lakes. Lake of the Woods and Rainy Lake represent one type. Imagine a surface several thousand square miles in extent worn unevenly by ancient rivers and ice fields because of the varying hardness of the underlying rock. In the depressions of this surface waters now accumulate, filling them to the lowest point of the rim. These are also rock-bottomed lakes.

Such lakes naturally contain hundreds of islands. Lake of the Woods contains several thousand islands, hundreds of which have received names. Rainy Lake, it is said, contains 500 islands, and Lake Saganaga, another boundary lake, 150. These islands are simply masses of hard crystalline rock which, having resisted the wear and tear of glacial erosion, stand as protruding knobs above the waters of the lake.

In the northeastern corner of the state we find another type of rock-walled lakes occupying the long, narrow valleys characteristic of the district. Lying in long, narrow rock-rifts, these lakes consist of sheets of water often miles in length and only a fraction of a mile in width. Throughout this region the lakes are all quite similar in form.



FIG. 10. A view of Lake Pepin, showing the development of sand spits near the beautiful village of Frontenac.

Geological Growth. In the history of the lands the series of events from the earliest times down to the period of present processes and conditions is too long to be repeated, yet a few of the more conspicuous features of the building up of the land masses of the state should be mentioned.

Land undoubtedly existed in Minnesota as early as it appeared anywhere upon North America. The great rock masses stretching from the northeast to the southwest across Minnesota, Wisconsin, and adjacent Ontario, were the sources of supply from which thick beds of sandstones, shales, and limestones were formed. While these beds of sedimentary rocks were successively laid down the land repeatedly sank and rose again. It was also shattered and faulted, and volcanoes were developed.

These disturbances brought into view the granites and gneisses which now abound in the Minnesota River Valley (Fig. 11), in central Minnesota, and in the northern portions of the state. These rocks represent masses of material which once must have lain thousands of feet below the surface of the earth. Layer after layer of these first-formed rocks was worn off, transported by rivers, and deposited in the seas as the process of degradation went on.

Many successive formations were thus laid down. At the present time we find these in the enormous masses of the Mesabi Iron Range, in the red rocks of southwestern Minnesota, and in the loose sands and limestones along the Mississippi as portions of a shore-line accumulation stretching from Sault Ste. Marie to Texas.

Once since that early time Minnesota has been beneath the sea. Compared with the regions farther west the duration of this submergence was short. Only a few hundred feet of sands and shales represent the deposit of this geologic age. From this record geologists conclude that during nearly all the early ages of geological history Minnesota contributed to the accumulations of the sea, and therefore to the subsequent enlargement of the land.

After these bordering beds of sand, shale, and limestone had been laid down, the state rose above the sea level, and for the millions of years following has been a region where weathering and rock decay have been in progress. In this long interval vast quantities of

material were contributed toward the filling up of the adjacent seas to the south and west until the time of the Glacial Period came.



FIG. 11. *Scene on the Redwood River. Here the water is slowly cutting its way through the hard layers of gneiss.*

The Glacial Period is that subdivision or period of earth history during which glaciers crept down from the north and overrode all Minnesota, save a small area in the southeastern corner of the state. This advance of ice fields occurred not only once, but several times in succession. Masses of ice entered the state from different directions. One of them came from Wisconsin, another from Manitoba, and so on. These several ice masses doubtless entered the state at about the same time; but as the climate changed many times, the ice successively advanced and melted back.

Thus a succession of glacial deposits followed each other, and the history of the Glacial Period in Minnesota, as well as in North America, became very complex. Its

cause was undoubtedly climatic—a cooling of the temperature of the region through long years; but the cause of the cooling is not known with certainty.

The progress of events leading to the final disappearance of the great glaciers is full of interest. How many periods of advance and retreat there were during the time the vast ice sheet extended over the state and finally and forever retreated beyond its borders, we do not know. Several morainic belts have been traced across the state by experts in glacial geology, and their influence on the economic development of the commonwealth is very great.

Between these moraines lay sandy plains and great glacial lakes, in the beds of which were deposited the silts and sediments forming Minnesota's vast, fertile fields. The Red River Valley (Fig. 3) is a lake-bottom plain and one of the richest spots for the growing of cereals yet occupied by man. (Fig. 4.)

Underground Waters. Throughout Minnesota the glacial drift is the universal source of ground-water supply. This loose, porous rock material (so loose that it may be picked and shoveled anywhere) contains an enormous amount of water gathered from the rains of summer and the melting snows of winter. This water, filling every space between the rock fragments both coarse and fine, is from its situation called ground

water. It furnishes an enormous water supply for the maintenance of numerous springs and for all the wells people dig, drill, or drive into it. The sources of the rivers can be traced to this supply.

The ground waters seep down into the earth below the surface rocks until they saturate successive underlying formations. If the rocks are porous enough to allow the water to flow between the grains with some degree of freedom, a copious well is assured.

Loose and porous formations like sandstones contain a large supply of water.

From five to fifteen per cent of clear, wholesome water is no unusual proportion to be carried in these porous rocks. Thus sufficient quantities of underground water are available for some communities.

Wells which flow with more or less force, owing to the pressure of the head-water, are known as artesian wells. When many artesian wells occur in the same neighborhood, they

prove the presence under like conditions of a large amount of underground water within a certain area. This area is called an artesian basin. Scores of these artesian basins, some small and some large, some drawing from shallow and some from deep water supplies, are scattered over the state. As population increases, the water in the shallow wells becomes polluted with decaying organic matter and is thus unfitted for use. Therefore, every town and city

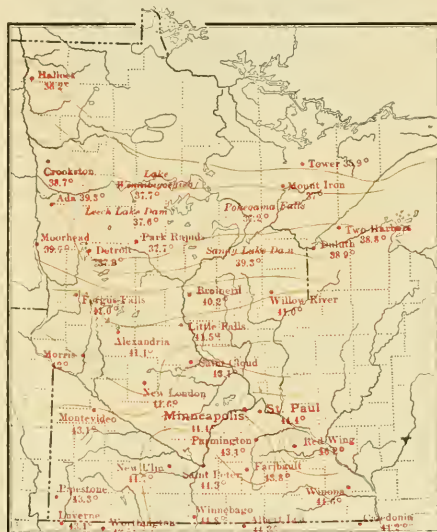


FIG. 12. Map showing average annual temperature from 1897 to 1909.

should be alert to understand and control its water supply, since so much of health and prosperity depends on good water. Where the surface waters become polluted, drilling deeper will usually secure a pure supply from an underground water-bearing formation.

Ground waters are nearly always hard, that is, they carry so much dissolved mineral material that they have a peculiar taste and in the laundry require much soap. They also form a scale in boilers, and thus are very troublesome to engineers. Springs, the waters of which contain mineral content producing a medicinal effect, are called mineral springs. A number of these springs occur in Minnesota, those at Owatonna, Shakopee, and Sacred Heart being among the best known.

Climate. The climate of Minnesota is continental. The state lies in the path of the cyclones as they move from west to east. It is calculated that more than sixty per cent

of the cyclonic areas crossing the continent pass over the state of Minnesota. This produces a prevailing westerly wind and a rainfall usually coming from the northeast. The

northwesterly winds occurring as the cyclones pass to the eastward give a remarkably wholesome and cooling effect to the air during the weeks of the summer season and a corresponding cold wave or blizzard in winter. (Fig. 12.)

April is the month of springtime activity among the Minnesota farmers, though the sowing of the crops extends into May in the northern part of the state. However, no definite week can be named for the closing of the springtime

work or for the close of the growing season. This latter event is associated with August or early September under usual weather conditions. The crops are sometimes endangered by early and late frosts.

Owing to the size of the state, the amount of rainfall reported from different sections varies in quantity. (Figs. 13 and 14.) In the southeastern quarter the average annual

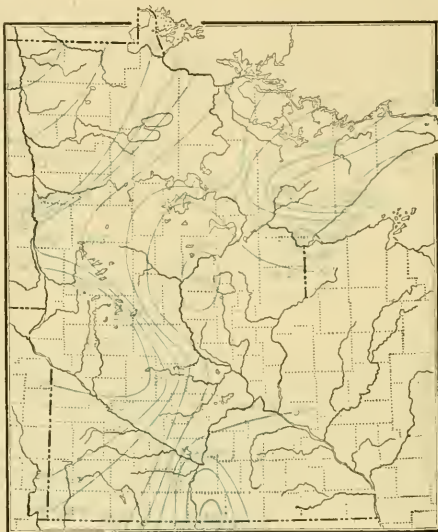


FIG. 13. Map showing average annual rainfall from 1897 to 1909.

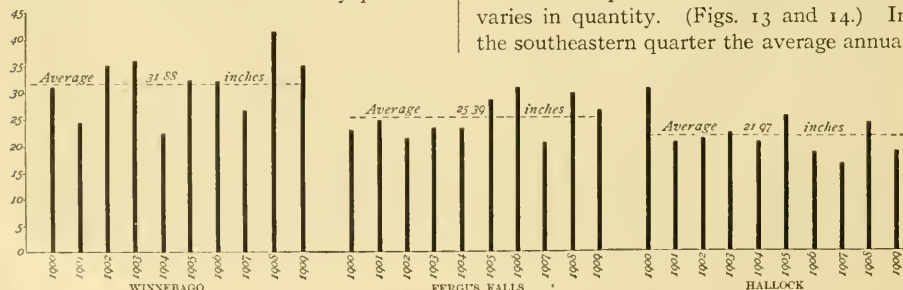


FIG. 14. The average annual rainfall at Winnebago, Fergus Falls, and Hallock, from 1900 to 1910.

rainfall is about 29.9 inches; in the northeastern quarter 30 inches; in the south-western, 27.2 inches, while in the northwestern corner it scarcely exceeds 20 inches. However, in the section last named, owing to diminished evaporation through the shorter and cooler summer and to the retentive quality of the soil, the supply is sufficient to mature the crops and to insure the farmer a steady and constant return for his labor. The snowfall of Minnesota is less than that of many other parts of the United States, due to the small precipitation during the months of December, January, and February. For these months the average temperature is 12.9 degrees and snow is to be expected, but for the past fourteen years the precipitation has been so small that the average over the entire state is only seven-tenths (.7) of an inch each month. Hence drift-snows are far less a hindrance to business in Minnesota than in states farther east and south, where the amount of melted snow per month measures several inches.

Vegetation. When Minnesota was first settled, it comprised about 54,000 square miles of forest and 32,000 square miles of prairie. The forested area was in the northern and central



FIG. 15. Norway pine on the shore of Lake Itasca.

portions, reaching southward into Blue Earth County. The prairies occupied the southern and southwestern sections of the state, stretching northward along the Red River Valley into Manitoba. The forests, while largely of mixed hard-wood and soft-wood timber, contained, in the region lying around the headwaters of the St. Croix and Mississippi rivers, large tracts of magnificent white and Norway pine. (Fig. 15.) Along the morainic ridges, which constitute an important feature of central Minnesota, stood magnificent groves of that stateliest conifer of eastern North America, the white pine.

Since territorial days the cutting of pine forests has been an important industry of the state. (Frontispiece.) Indeed, the state was explored and its development begun by the lumbermen of the St. Croix and Mississippi valleys.

In addition to the pines already named, the most valuable timber trees are balsam, tamarack, and spruce (Fig. 9) among the cone-bearers; and elm, walnut, oak in several species, ash, birch, poplar, cottonwood, box elder, willow, and other of the leaf-shedding species. Increasing interest is shown among the owners of forest lands in the efforts being

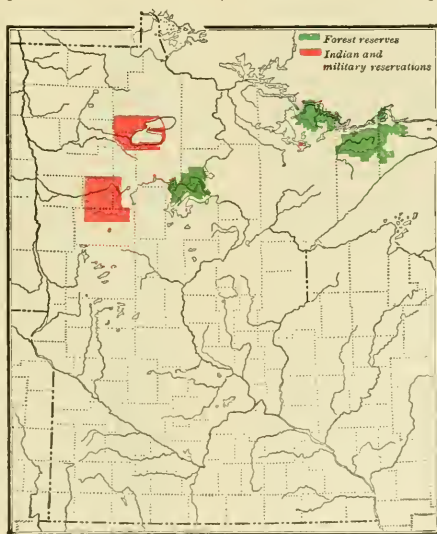


FIG. 16. Map showing Forest Reserves, Indian and military reservations.

made to conserve in all ways the timber supply of the state. (Fig. 16.)

The prairies, because of the ease and rapidity with which they may be broken and brought under cultivation, have shown the greatest gain in population and the most rapid development in agriculture. The soil over much of southern Minnesota is remarkably rich and productive, and farmers have grown crops on the same land for many years without having need of a fertilizer.

Animals. In the early history of Minnesota the buffalo was king of the prairies. Hunting this animal over the rolling grass land was most exhilarating



FIG. 18. Harvesting corn with a corn binder, preparatory to making ensilage.

sport. An early explorer sent out by the Government to discover possible valuable resources in this part of its Louisiana Purchase (Fig. 36), reported the region to be unfit for agriculture and suitable only for an Indian reservation and buffalo hunting for gentlemen.

The forests yielded deer and caribou, two wild animals unexcelled for food, and beaver, mink, sable, fox, wolf, wild cat, lynx, and



FIG. 17. Cutting corn for the silo.

other fur-bearing animals in such great numbers that the Hudson Bay Company was led to consider this region an important part of its fur-trading territory. Among birds for food the prairies afforded the prairie chicken and the forests the partridge, while the lakes and sloughs were the feeding ground for immense numbers of migratory ducks and geese. The streams and lakes still abound in the choicest species of freshwater fishes.

Agriculture. Dating from the earliest settlement in the southeastern counties, Minnesota has been essentially an agricultural state. (Fig. 39.) In the southern prairie region of the commonwealth no other occupation could be followed. In the central and northern

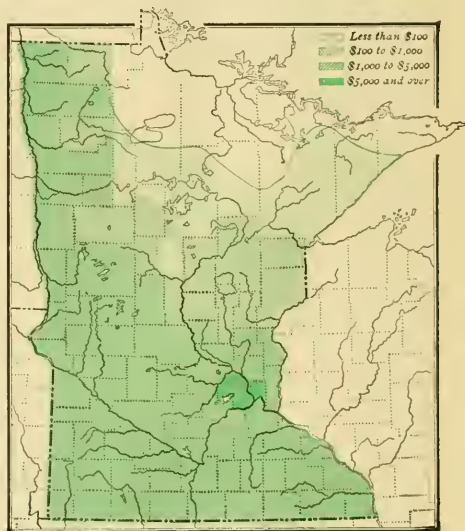


FIG. 19. The value of farm products per square mile, census of 1900.

portions, lumbering was the first industry of any importance; but agriculture has followed steadily the removal of the forests. In the northwest the great Red River Valley practically has become one vast wheat field into

which, during the period from 1870 to 1900, people trailed in immense numbers.

The first crop of the southern farmer was wheat. Experience, however, has proved that varieties of corn developed here yield approximately as many bushels per acre as are produced in the warmer climate of the great corn belts of Missouri and Iowa.



FIG. 21. A cooperative creamery at Litchfield. This is one of the most successful creameries in the state.

Following the corn came the dairy industry. Where at one time agricultural exports centered at wheat elevators, the creamery and the butter factory have now become the centers of greatest production of wealth. (Fig. 21.) The abundance of rich forage grasses affords the best of food for dairy herds and for cattle and horses, while the corn fattens a constantly increasing number of cattle and hogs. (Figs. 17 and 18.) Oats



FIG. 20. A herd of dairy cows. In 1900 Minnesota ranked eighth in the value of dairy products.

(Fig. 23), barley, flax, and garden products are also profitably grown.

Fruit raising has become an important industry in the state. Both blackberries and raspberries flourish along the flood plain of the Mississippi River. No finer

strawberries reach the markets of the Central West than those grown in Minnesota. The eastern part of the state especially is famous for the excellence of its berries.

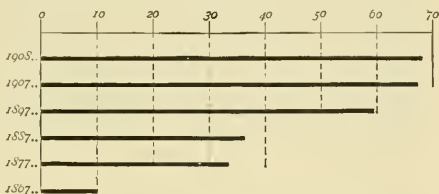


FIG. 22. The wheat crop of Minnesota for five decades, 1867-1907, and for 1908, in millions of bushels.

From the south shore of Lake Minnetonka (Fig. 8) grapes are shipped which rival those of the famous vineyards of New York and Ohio. Here the lake so tempers the



FIG. 23. A field of oats in the lake district of Minnesota. Notice the height of the oats as compared with that of the man and the horse.

climate that autumn frosts occur about two weeks later than in the district along the north shore, only two or three miles distant. On the sand plains of the central part of the state along the Mississippi are raised some of the finest melons

grown in the West. Wild plums flourish in fruitful groves in the Minnesota River Valley, an evidence that by nature the state is well fitted for the production of fine fruits.

The soil of the state is of such recent origin and has as yet been so little worked that it is still fresh and fertile; so fertile, indeed, that for years the farmers could grow successive crops on the same ground without thought of exhausting its resources.

In the beginning the Minnesota farmers planted those crops that could be sent to market with the least danger of injury or loss through transportation. Wheat has a greater value per bushel than any other grain. The farmer realized nearly twice as much per pound for wheat as for barley, oats, or corn. Naturally, therefore, wheat became the staple crop. (Fig. 22.)

Stock raising and dairying (Fig. 20), through the steadily increasing number of markets due to the centering of the people in towns, have made continuous progress. The butter and cheese of Minnesota have



FIG. 24. View of a quarry and plant near New Ulm.

repeatedly taken first prizes in interstate competitions.

Minnesota compares well with the other states of the Union in value of agricultural products (Fig. 19), in production per capita, in the thrift of its people, and in the

steady advancement of its rural population in wealth and culture. (Part III, Table, p. 40.)

Quarrying. Minnesota is the center of extensive quarrying industries. Many kinds of rocks are used, including granite, gneiss, sandstone, quartzite, limestone, dolomite, diabase, and gabbro. All are rocks of great age, geologically. The diabase and gabbro tell us of volcanoes more extensive than are Vesuvius and Mauna Loa. The granitic rocks were already old when the volcanoes were active, and the sandstone was laid down upon the lava beds as a sandy shore, like that of New Jersey to-day.

Thus far the principal localities profitable as quarry grounds for sandstone are the town of Sandstone and Fond du Lac, a suburb of Duluth. Quartzite comes from Courtland, near New Ulm (Fig. 24), Pipestone, Jasper, and Luverne. Limestone, chiefly for domestic use, is quarried extensively at Minneapolis and St. Paul. Mantorville also yields considerable quantities. Extensive dolomite quarries are situated at Kasota, Mankato,



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FIG. 25. The Fayal Mine at Eveleth in the Mesabi Range. This range is the largest iron-ore producer in the world.

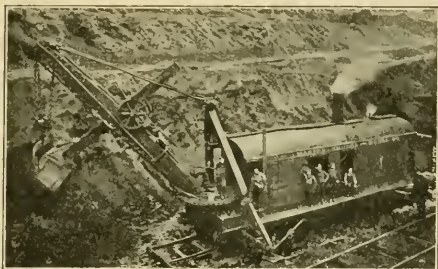


FIG. 26. Type of steam shovel used in mining ore.

Frontenac, Red Wing, Stillwater, and Winona. Gneissic rocks (Fig. 11) occur in the valley of the Minnesota between New Ulm and Ortonville. Granite is found in Stearns County, where it is quarried extensively, and in Sherburne, Benton, Morrison, and Kanabec counties. It has also been quarried in St. Louis County. Minnesota ranks among the thirteen states with a yearly product of more than \$500,000. Slate occurs at Carlton and Thomson, a few miles from Duluth.

The remarkable freshness of the rocks in all portions of the state, due to extensive glacial erosion, makes quarrying comparatively easy. This is so because, through glacial action, a great work—the removing of weathered and decomposed material, or “stripping the quarry”—was done.

Mining. The great mineral product of the state is iron ore. (Part III, Table, p. 41.) This occurs in such quantities and is of such quality as to place the state first in rank among the

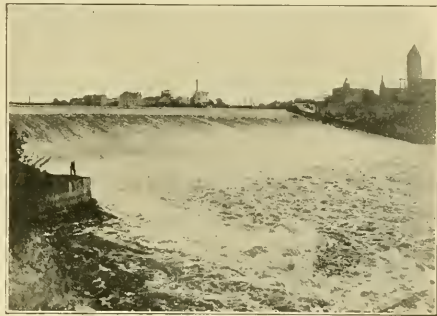


FIG. 28. A present-day view of the Falls of St. Anthony.

iron-producing regions of the world. Thirty million tons of ore are sent yearly to Pittsburgh and the great iron-making cities of the lower lakes, chief among which are Chicago, Cleveland, and Erie. The product of the Mesabi Range alone is about twenty-eight million tons and that of the Vermilion Range nearly two million tons. The ore is the common iron oxide, red hematite.

Two well-defined varieties of ore are produced: (1) the Vermilion ores, hard and crystalline, having a bright black color and occurring at a considerable depth in the earth: (2) the Mesabi, an iron ore ranging from red to yellow in color and comparatively soft. This ore lies just under the glacial drift and from five to fifty feet beneath the surface. (Fig. 25.)

The ore bodies vary in thickness from one foot to 250 feet. Their situation is so

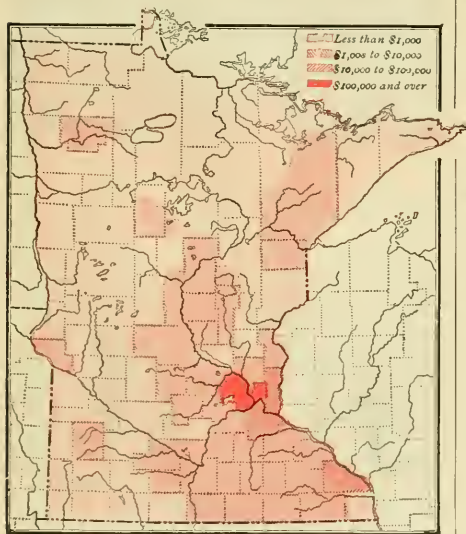


FIG. 27. The value of manufactured products per square mile, census of 1900.



Vermilion, F. W. Stevens

FIG. 29. Avenue of skidways on Pine Island, with logs equaling over a million and a half board feet, cut from a little more than the cut-over area in sight. Pine Island is said to be the greatest logging camp in the United States operated by horse power.

advantageous that the removal of the few feet of drift above an ore body is all the stripping required to expose a mass of ore, which, after being loosened with a charge or two of dynamite, is mined with a steam shovel (Fig. 26) and yields in an hour or two enough to load a train of cars.

There is much interest as to the probable amount of ore deposited. It lies in large bodies, millions of tons in quantity, located in well-defined troughs or depressions slightly below the level of the adjacent ground. These ore bodies have been discovered in a chain of deposits from the east end of the Mesabi Range westward beyond the Mississippi River. A conservative estimate places the amount known to exist as not less than



FIG. 30. Steam hauler transporting forty-nine cords of wood over an ice road.

2,000,000,000 tons of high-grade ore, besides untold millions of tons too poor for present methods of treatment.

Manufactures. The rise of manufactures has been necessarily brief. One of the earliest mills in the state was built on the Vermilion River at Hastings. The ruins still stand and are known as the "old Ramsey mill" because, it is said, Alexander Ramsey, one of the early governors, was interested in the building and running of it.

The first mill for grinding grain located at the Falls of St. Anthony was completed and operated in 1821, when Fort Snelling was first laid out and occupied by the United States Government as the military post of the Northwest. From this beginning through



FIG. 31. The logs have reached Minneapolis, where the lumber mill converts them into lumber at the rate of one million feet per day.

the water power of the Falls of St. Anthony (Fig. 28), a large manufacturing center has developed. (Fig. 32.) In 1909 the value of the output of this industrial center exceeded \$157,000,000. (Part III, Tables, p. 41.)

Lumbering has been a leading industry in Minnesota for forty years. At present the lumber industry is giving place to the more varied agricultural pursuits. The value of the lumber product of the state is now more than \$250,000,000 per year. (Figs. 29, 30, and 31.)

Harnessing the St. Louis River at Carlton, four hundred feet above the city of Duluth,

laid the foundation for a manufacturing center at Duluth, the possibilities of which are exceedingly great. All the smaller cities are establishing manufactories in order to convert the local products



FIG. 32. A view of the milling district in Minneapolis.

into the most compact form for commercial distribution, and to prepare for home consumption all the necessities and luxuries of modern life without the expense or delay incident to shipping and handling. (Fig. 27.)

Commerce. The commercial development of the state has come about chiefly through the development of the railway systems of the Northwest. St. Paul, the capital, and Minneapolis, the center of manufactures, standing only ten miles apart, together form the great commercial center of the entire Upper Mississippi Valley. Railways converge here, bringing materials for consumption, distributing the accumulated stock of manufactories, and caring for the extensive passenger traffic growing out of a great political and industrial center.



FIG. 33. Scene on the Mississippi at Gray Cloud Island, showing the wing dams built to maintain navigation.

These railways, radiating in all directions across the prairies and through the forests of Minnesota, are parts of great transcontinental systems reaching from the Atlantic Ocean to the Pacific. Their

length and their efficiency for commerce and travel are continually being increased. (Fig. 34.) Based upon the earnings within Minnesota alone, the tax upon the gross earnings of the railways and other public service corporations amounts approximately to \$3,500,000 a year. (Part III, Table, p. 40.)

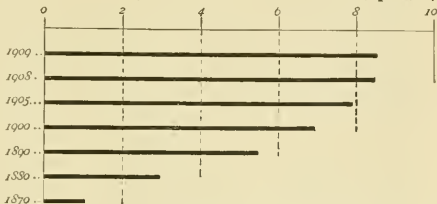


FIG. 34. The railroad mileage of Minnesota for each ten years from 1870 to 1900, and for the years 1905, 1908, and 1909, in thousands of miles.

In the Mississippi Valley transportation by water has not advanced greatly during the last fifteen years, and the tonnage from Minnesota southward to St. Louis and the Gulf of Mexico has decreased. In recent years the improvement of the waterways of the country is receiving increasing attention. It is believed that, with the development of the waterways throughout the country, the transportation of products by water will increase until the utilization of the Mississippi by steamboats will again command an important place in the commercial affairs of the continent. (Fig. 33.)

Duluth, at the head of Lake Superior, is the principal port of the Great Lakes. Its

commerce is extending at a rapid rate. Already its tonnage entitles it to rank as the second port in the United States. Iron ore, wheat, barley, oats, corn, linseed oil, and lumber are the leading products, millions of tons being shipped yearly from Duluth through the *Soo* Canal to the lower lake cities for domestic consumption, and to New York and Quebec for export. The increase in the commerce of Duluth and the neighboring ports, Superior and Two Harbors, has been phenomenal.

This growth can be attributed first of all to the discovery of the Vermilion and Mesabi iron ranges, but it is also due to the vast pine forests of northern Minnesota, and to cheap lake transportation from the grain fields and cattle ranches of the Red River Valley and the plains to the markets of the world.

Early History. On receiving the great Northwest Territory from France in 1763, the British Government sent Captain Jonathan Carver to explore and report upon the region. In 1766 Carver (Fig. 36) ascended the Mississippi River to the mouth of the St. Francis, where Elk River now stands. Returning to the mouth of the Minnesota River, he pushed his canoe up that stream to the Cotton-



From an original painting by Charles Wilson Peale, now (1811) in Independence Hall.

FIG. 35. General Zebulon Montgomery Pike, soldier and explorer.

wood, and wintered on the site now occupied by New Ulm.

In 1803 Louisiana became a part of the United States. Two years later the Government at Washington sent out Lewis and Clark to explore the vast region of northern Louisiana, and Lieutenant Zebulon Pike (Fig. 35) to find the source of the Mississippi. Although this was more than twenty years after the treaty of peace had been signed closing the Revolutionary War, Pike found the English flag flying over trading posts along the Mississippi.

Lieutenant Pike wintered at Pike Rapids, and in the next season pushed forward to Cass Lake, then called Red Cedar Lake. (Fig. 36.) On account of a shortage of provisions, he was forced to return to St. Louis, then as now the emporium of the Mississippi Valley.

In 1817 the United States, in order that the lumber region of the St. Croix and the Upper Mississippi might be made accessible, undertook a series of treaties with the Indians occupying this territory.

Three years later (1820), General Cass, at that time Governor of the Territory of Michigan, which then included all of Minnesota east of the Mississippi River, began a series of explorations that he might become acquainted

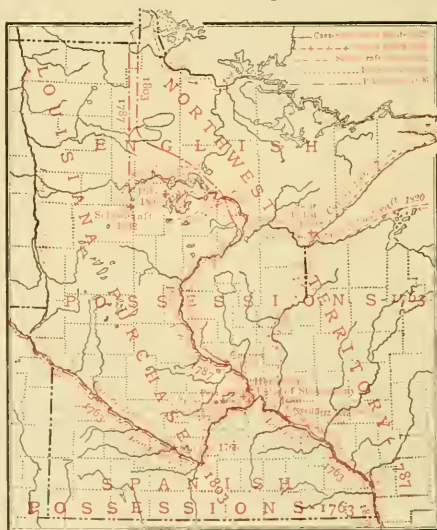


FIG. 36. An historical map of Minnesota.

with the geography and resources of his entire territory. These explorations resulted, in 1832, in the discovery of Lake Itasca by that intrepid explorer, successful trader, and student of Indian character, Henry R. Schoolcraft. (Fig. 36.) This discovery made definite certain political factors pertaining to the relations of Louisiana and Michigan, and also the international relations of the United States and the United Kingdom.

These discoveries, with the treaties set on foot by Major Long in 1817, opened the country to lumbermen and to traders, so

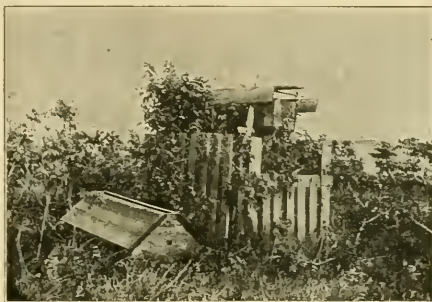


FIG. 37. An old Indian grave on the bank of Leech Lake.

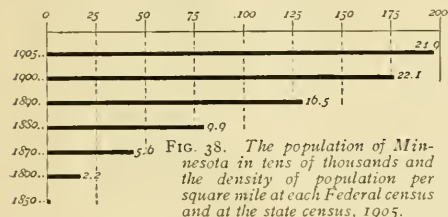


FIG. 38. The population of Minnesota in tens of thousands and the density of population per square mile at each Federal census and at the state census, 1905.

that outside of Mendota the great forests of eastern and central Minnesota became the region of first settlement. The village of Mendota was an outlier of Fort Snelling, the military post established at that strategic point, the confluence of the Minnesota and Mississippi rivers. It was named in honor of the first commandant of the fort.

During 1851 the lumber interests of the Mississippi, St. Croix, and tributary streams developed rapidly. In that year, and between 1851 and 1877, treaties with the Sioux Indians brought 35,000,000 acres under the control of the United States and 150,000 people to the prairie farms of southern Minnesota.

The history of Minnesota before the advent of the white man is wrapped in obscurity. Mounds built by its earlier inhabitants prove that a large population occupied the land.

In the north, ancient diggings for copper and red oxide of iron, and chips of quartz in the earth around what

were apparently the workshops of prehistoric peoples, demonstrate that their industries were extensive. From the Mississippi to Lake Superior, along several canoe routes between these two regions, old routes of travel have been traced, also demonstrating that migrations for war, for digging copper, and for fishing or hunting were regularly undertaken. (Fig. 37.) These routes continued as thoroughfares of travel long after the white man came to the region.

The first white men in Minnesota were two Frenchmen, Groseilliers and Radisson, who, in 1655 (Fig. 36), lived on Prairie Island, a high piece of fertile ground in the river bottoms between Hastings and Red Wing.

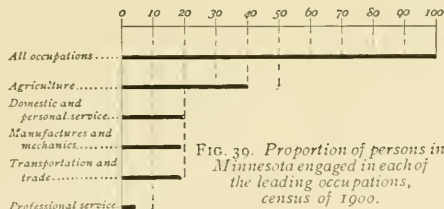


FIG. 39. Proportion of persons in Minnesota engaged in each of the leading occupations, census of 1900.

Later, in 1679, a fort was established on the north shore of Lake Superior in what is now Minnesota by the Sieur du Luth, a Frenchman. (Fig. 36.)

One year later, in 1680, occurred the discovery of the Falls of St. Anthony by Father Hennepin, a French missionary. On



FIG. 40. The capitol at St. Paul.

account of their remarkable beauty and grandeur he named the falls after his patron saint, Anthony of Padua. The Hudson Bay Company, chartered ten years before the Falls of St. Anthony were discovered, long continued to push its work of buying furs and selling gaudy cloths and tobacco to the

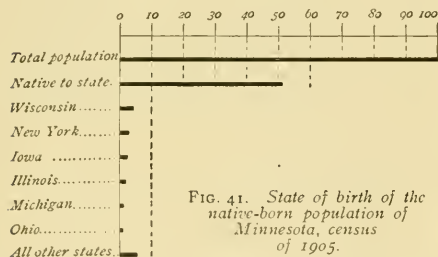


FIG. 41. State of birth of the native-born population of Minnesota, census of 1905.

Indians of that vast northwest region of which Minnesota formed but a small part.

The People. Minnesota dates its official career as a commonwealth from May 11, 1858. At the time it entered the Union about 2,400 Indians were enumerated in the total population of approximately 150,000. Since then the Indians have advanced but slightly if at all in numbers, although the population as a whole has increased from 150,000 to more than 2,000,000, the Federal census of 1910 showing a total of 2,075,708.

The most rapid increase in population has been in the northern part of the state. This has been due to the agricultural resources of the Red River Valley, the great

lumbering interests around the headwaters of the Mississippi and St. Louis rivers, and the opening of the iron mines of St. Louis County. (Fig. 39.) Evidence of this is seen in the fact that from 1895 to 1905 in the counties of Carlton, Kanabec, Lake, Itasca, Roseau, Cass, Cook, Hubbard, Beltrami, and Clearwater, the increase in population

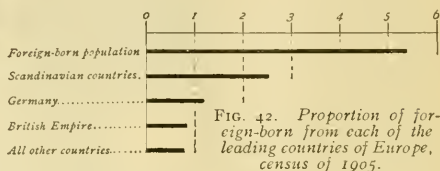


FIG. 42. Proportion of foreign-born from each of the leading countries of Europe, census of 1905.

was more than 100 per cent. Migration within the United States has contributed most of the people, who came largely from New England and the more northern states westward to the Great Lakes region. (Fig. 41.)

The foreign-born population of Minnesota numbered 537,041, a little more than one-fourth of all the people in the state. (Fig. 42.)

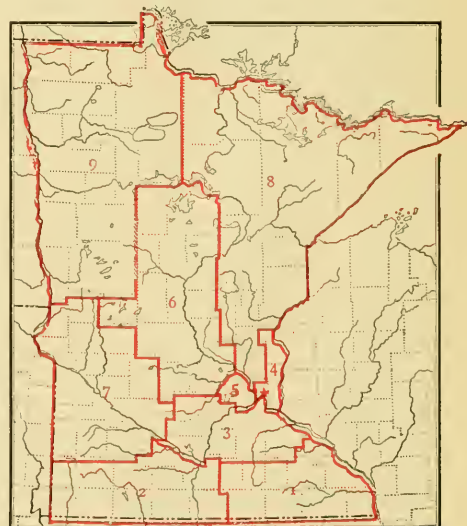


FIG. 43. The Congressional districts of Minnesota.

Government. Minnesota is known as the state of Minnesota. Its constitution was adopted October 13, 1857. The state is represented in Congress by two Senators, elected by the Legislature, and nine Representatives, elected by the people in as many separate Congressional districts. (Fig. 43.)

The Legislature, which meets in the capitol at St. Paul (Fig. 40), consists of sixty-three Senators, over whom the Lieutenant-Governor presides, when the Senate is in session, and a House of Representatives consisting of 119 members, who elect their own Speaker.

The affairs of the state are administered by a Governor, a Secretary of State, an Auditor, a Treasurer, an Attorney-General, a State Superintendent of Public Instruction, a State Board of Control, and also the commissioners, superintendents, and directors of the various subdivisions of state administration. The judicial department consists of a Supreme Court, composed of one justice and four associate justices, elected by the people for a term of six years. The minor court system consists of nineteen Judicial districts

presided over by from one to seven judges, and the Municipal courts maintained by the larger cities and towns. Details of state government are left to the eighty-six counties, each consisting of townships and incorporated villages and cities. Each of these counties is presided over by an auditor,

a treasurer, a board of commissioners, a superintendent of schools, with such additional officers as occasion may require.

Education. When Minnesota was organized into a territory in 1849 three private schools, located at St. Anthony, St. Paul, and Stillwater, were all the educational institutions in the region. The present state school system comprises a group of common schools divided into more than 5,000 districts, presided over by

eighty-six county superintendents; 206 high schools; five normal schools, and the State University. In addition many academies, colleges, and universities are maintained by religious denominations. (Fig. 44.)

The University of Minnesota was organized under the territorial constitution. At present it consists of sixteen schools and

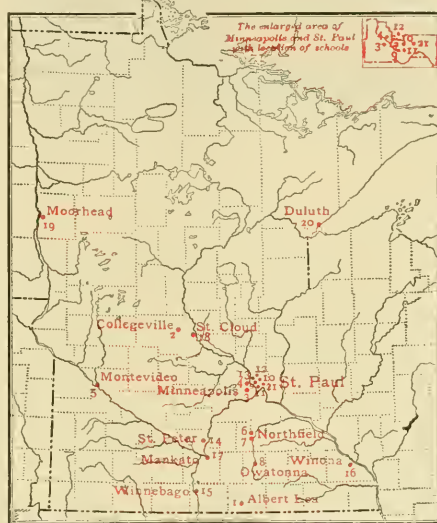


FIG. 44. The leading educational institutions of Minnesota.

THE LEADING EDUCATIONAL INSTITUTIONS OF MINNESOTA

COLLEGES AND UNIVERSITIES

- 1 Albert Lea College, Presb., Albert Lea.
- 2 St. John's University, R. C., Collegeville.
- 3 Augsburg Seminary, Luth., Minneapolis.
- 4 University of Minnesota, State, Minneapolis.
- 5 Windom Institute, Cong., Montevideo.
- 6 Carleton College, Cong., Northfield.
- 7 St. Olaf College, Luth., Northfield.
- 8 Pillsbury Academy, Bapt., Watonga.

- 9 College of St. Thomas, R. C., St. Paul.
- 10 Hamline University, M. E., St. Paul.
- 11 Macalester College, Presb., St. Paul.
- 12 State University, College of Agriculture, Experimental Station and Farm, State, St. Anthony Park, St. Paul.
- 13 United Church Seminary, Luth., St. Anthony Park, St. Paul.
- 14 Gustavus Adolphus College, Luth., St. Peter.
- 15 Parker College, Free Bapt., Winnebago.

PUBLIC NORMAL SCHOOLS

- 16 First State Normal School, Winona.
- 17 Second State Normal School, Mankato.
- 18 Third State Normal School, St. Cloud.
- 19 Fourth State Normal School, Moorhead.
- 20 Fifth State Normal School, Duluth.
- 21 Teachers' Training School, St. Paul.

colleges, with an attendance of more than 5,000 students. The university is governed by a board of regents, consisting of three ex-officio members and nine appointees of the Governor. The State University receives its support from three sources: income from investments and from United States appropriations and grants, fees of students, and state appropriations.

Charities and Corrections. No state can care more solicitously for its unfortunates than does Minnesota. The school for feeble-minded and the colony for epileptics were organized and located in Faribault in 1879. These institutions are for the care of children that do not properly belong to hospitals for the insane.

The insane are cared for in three state hospitals, situated at St. Peter, Rochester, and Fergus Falls, and at two asylums for the insane, located at Anoka and Hastings.

In 1907 a farm for inebriates was authorized. This will be founded upon and maintained by a tax of two per cent levied on licenses issued for the sale of intoxicating liquors.

A hospital for crippled and deformed children which is at St. Paul is for both the treatment and the education of such children.

A soldiers' home is located near Minnehaha Falls (Fig. 46), providing for honorably-discharged



FIG. 45. A class in corn judging, a study in the Short Course, School of Agriculture, State University.

soldiers and sailors. Provision is also made for the widows.

A public school for dependent and neglected children, admitted upon orders from the courts, was established in Owatonna in 1885.

A school for the deaf has been maintained at Faribault since 1865, and another for

the blind since 1866. A well-organized course of study is followed in both these schools.

A state training school for boys and girls was established at Red Wing in 1867 to which are committed, by the Justice, Municipal, and District courts, boys and girls between the ages of eight and seventeen years. In 1907 the girls were assigned to a separate industrial school at Sauk Center.

A reformatory established at St. Cloud in 1887 is for the care of boys and young men between sixteen and thirty years of age, first offenders in felony. Instruction in the common branches and skilled training in several trades are provided.

The State Prison was located at Stillwater in 1851, shortly after Minnesota was made a territory. The policy of the management of the prison has been to utilize the labor of convicts. To this end various lines of manufacturing have been followed, and at present a tailor shop, a shoe factory, a binding-twine factory, and a machinery plant are in operation.



FIG. 46. A scene on the Mississippi River near Minnehaha Falls. At the left may be seen the Soldiers' Home.

II. GROWTH AND DEVELOPMENT OF CITIES AND TOWNS

Gain in Population. While the past ten years has seen a rapid increase in urban population, at present only a trifle over one-half the people of Minnesota live in its cities and towns. During that period large areas were opened to agriculture and stock raising which attracted increasing numbers of people to the country and the farm. Yet, by 1910, the 366 cities in the state in 1895 had increased to 644, and many new villages, trade centers and markets for the growing agricultural districts, had sprung up all over the state. At present, over one-half of all the people living in places having more than 4,000 inhabitants are found in the three cities, Minneapolis, St. Paul, and Duluth. (Fig. 47.)

The Twin Cities, Minneapolis and St. Paul. Minneapolis, the largest city and commercial metropolis of the state, is the greatest manufacturing center in the world for flour and lumber. This position and rank has been attained in only a little more than sixty years.

The beginning of Minneapolis was the staking out of a group of claims on lands opened to settlement on the east side of the Mississippi River at the Falls of St. Anthony in July, 1838. The town site of St. Anthony was laid out in 1847, and by 1855 there had grown up a community of 2,500 people. In 1854 the first bridge was built over the Mississippi. In 1866 Minneapolis, a village on the west side of the river, was incorporated, and in 1872 the two cities were united.

Lying on both sides of the Mississippi at the Falls of St. Anthony, the city possesses a water power which affords excellent advantages for manufactures. To the utilization of this power is due one of the most remarkable manufacturing centers in the United States. (Fig. 28.) The earliest product was lumber, obtained from logs cut in the pine forests of the upper Mississippi and floated down the river to the sawmills built at the falls. (Fig. 31.) Transported by rail, this lumber afforded a cheap and plentiful supply of building material for the

people of the prairies to the south and west.

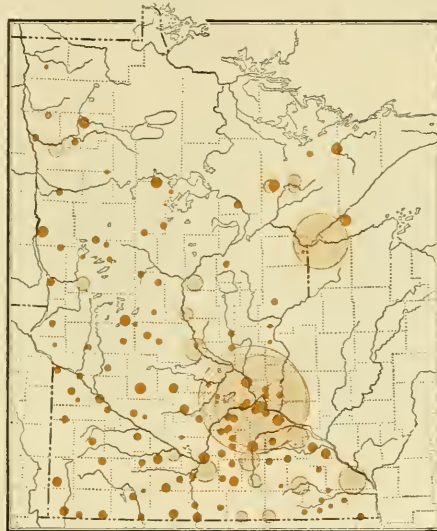
The manufacture of flour also began early in the history of the city.

Since 1869, the year that marked the beginning of experiments not only in the scientific methods of milling but also in the growing of the best variety of spring wheat for making flour, there has been a steady development in the industry of flour manufacture. Now the wheels of twenty-two of the world's greatest flouring mills are driven chiefly by power furnished by the Falls of St. Anthony. (Fig. 32.) These include the two largest flouring mills in the world, making 12,000 and 10,000

barrels daily. Among other growing industrial interests the manufacture of farm machinery and linseed oil are even now important.

Owing to an advantageous position, Minneapolis commands a varied and extensive trade. (Fig. 48.) The city's banking business has already surpassed one billion dollars yearly.

Minneapolis, with its fine parks and boulevards, its broad, well-kept streets, and its attractive homes set in spacious grounds, is



The relative size of incorporated cities and villages is shown by the size of the circles
 201,974
 • 1,000 to 5,000 ● 5,000 to 201,974 The area and the relative population of Minneapolis
 FIG. 47. The density of urban population in Minnesota, census of 1905.

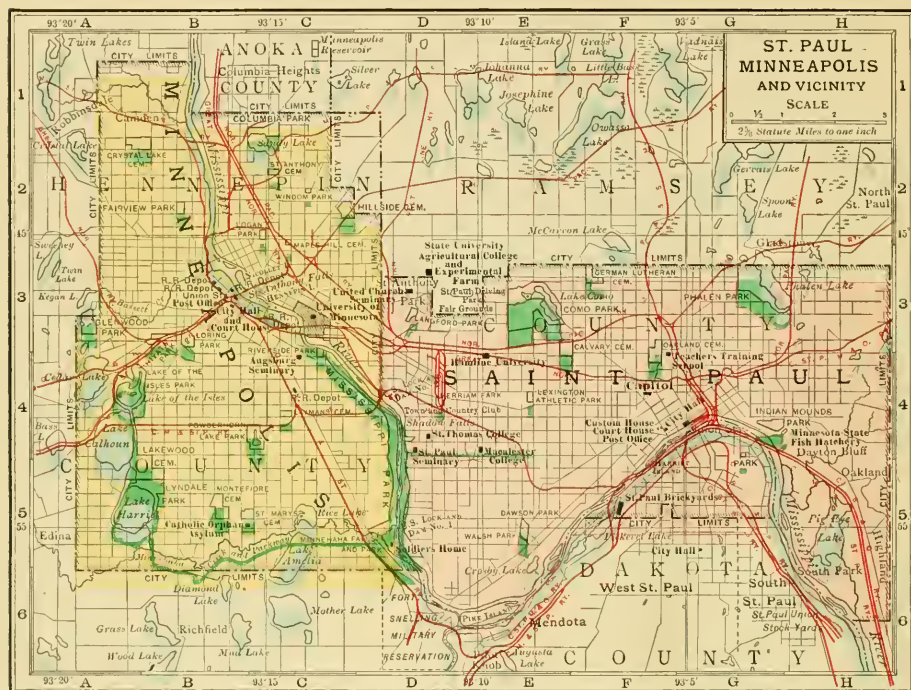


FIG. 48. A map of St. Paul, Minneapolis, and vicinity.

one of the most beautiful cities in the Middle West. (Fig. 49.) Lake Minnetonka (Fig. 8) ten miles from the city, affords a most delightful and restful lake resort for both Minneapolis and St. Paul. Electric cars closely connect these cities with the lake.

This city is also an educational center, being the seat of the State University, Minnesota College, and a number of collegiate institutions.

St. Paul, the capital, lying just below Fort Snelling and the confluence of the Minnesota and Mississippi rivers (Fig. 48), has a picturesque situation. It is one of the largest cities in the state in business, commercial importance, and population. The "Twin Cities" form a leading railroad center, being headquarters of several great railways. Post-office receipts of more than two and one-half million dollars yearly show the large volume of business transacted.

The commercial section of St. Paul lies along both banks of the Mississippi River and also occupies the narrow valley stretching northward from the river at the bend in the stream. On the west side of the river are South St. Paul and West St. Paul, two large and rapidly developing divisions of the commercial section. Some of the most valuable brickyards in the state are located in St. Paul.

St. Paul has had a rapid commercial growth. In 1845 it was only a trading post with three or four traders in furs and squatters' supplies. A post office was established in 1846, and steamboats began to make regular trips down the river in 1847. From the small and unimportant trade of only sixty years ago, the volume of business has increased steadily. Many important manufactories have been established (Part III, Table, p. 41), and as a

distributing and jobbing point St. Paul stands high in the state. The meat industry is especially important, the largest meat packing plant in the Northwest being located at South St. Paul. Among other leading manufactures are boots and shoes, saddles and harness. St. Paul, it is said, prints more law books than any other city in North America. The city has also become the center of the fur industry of the United States, a legacy from the early fur traders and the Hudson Bay Company.

Several institutions for higher education are located in St. Paul. In the west division of the city are Hamline University and Macalester College, both prosperous institutions. Concordia College is meeting the wants of a rapidly growing enrollment, and the College of St. Thomas has become one of the leading Catholic colleges of the country. The Minnesota State Agricultural College and Experiment Station is located at St. Anthony Park within the immediate neighborhood of the city. (Fig. 45.)

The capitol is one of the most beautiful buildings of the kind in the United States. (Fig. 40.) In it are the State Historical Society with an historical library of more than 100,000



FIG. 51. *Sugar Loaf Mountain standing guard above the city of Winona.*

volumes, a large number of historical relics, and the great law library of the state.



FIG. 49. *View of a residence street in Minneapolis.*

The approaches to St. Paul both from the southeast and southwest are beautiful. The high bluffs along the river are covered with parks or occupied by varied buildings devoted to public and private use. (Fig. 50.)

Still Other Mississippi Valley Towns. The Mississippi Valley route was naturally selected as one of the first and easiest entrances to the state. Along the banks of the stream, at convenient distances, trading posts and forts were established. Later these became distributing points or markets for the surrounding country. Sites were usually selected with reference to inflowing streams, as is seen in the relation of Red Wing to the mouth of the Cannon River, Hastings to the Vermilion and the St. Croix.

The largest of the Mississippi Valley towns is Winona, 600 miles above St. Louis and 103 miles from St. Paul. The town is built upon the south side of the Mississippi River on an island in the flood plain. In an abandoned channel of the Mississippi lies Lake Winona. Above this lake rises the bald bluff, Sugar Loaf Mountain (Fig. 51), long a landmark for river men



FIG. 50. *On Summit Avenue, the principal residence street of St. Paul.*

Lying at the junction of five important railroads, Winona holds an exceptional commercial position and is the trade center for the rapidly growing region of both southern Minnesota and northern Iowa. The manufacturing interests of the city are developing rapidly. From a town of 2,464 in 1860, Winona has grown steadily until it now has a population of more than 20,000. The city is the site of the oldest and largest normal school in the state, organized in 1860.

Above Winona, where the Mississippi River broadens and deepens into Lake Pepin, stands *Wabasha*, also built upon the flood plain of the Mississippi. Bluffs 400 to 500 feet high separate it from the adjacent prairies. Wabasha is directly opposite the mouth of the Chippewa River, and it has long been a local business center of importance. It is also the center of the Lake Pepin pearl fisheries. The town is a favorite river resort for campers and pleasure seekers.

Lake City, lying on the shore of Lake Pepin, is one of the most picturesque towns in Minnesota. Evidences of prehistoric settlements are found in numerous mounds to be seen along the lake shore in the region of both Lake City and Wabasha. The encampment grounds of the Minnesota National Guard are at Lake City. Extensive nurseries are located at the city, which is rapidly becoming an important center for small fruit.

Red Wing (Fig. 52), at the head of Lake Pepin and below the mouth of the Cannon River, owes its name to an Indian chief famed in early history. Within the city is LaGrange Mountain, a conspicuous feature of the long Mississippi River gorge and another landmark for early settlers. The city is a center for manufactures. Pottery is the chief product, the Red Wing manufactory being one of the largest in the United States. Two Lutheran seminaries are located here.

Twenty miles below St. Paul, at the junction of the Mississippi and Vermilion rivers, is *Hastings*. This city is the eastern terminus of an important division of a great railroad system. The old Ramsey mill, one of the early grist-mills in the state, was built here. In 1899 the second state asylum for the insane was located at Hastings. To the north of Hastings, where the River St. Croix broadens out into beautiful Lake St. Croix, is *Stillwater*, the "City of the Valley." The town has long been one of the centers of the lumbering industry of the St. Croix River Valley, its trade now extending not only throughout the St. Croix Valley but toward the Pacific and Hudson Bay.

Upper Mississippi Valley Towns. Above Minneapolis the Mississippi flows no longer

in a deep gorge, but in a shallow, open channel. It is one of the young streams of the northern half of the continent, where only recently great glaciers covered the surface. Towns naturally grew up along the river at points most easily reached from the higher central plateau. Water power was also considered in the choice of a location. These villages



FIG. 52. The State Training School for boys, lying among wooded bluffs near the city of Red Wing.

soon became centers for the transportation of products and supplies, and for the conversion of raw material, logs and grain, into the more marketable forms of lumber and flour.

Just above Minneapolis, at the confluence of the Rum and the Mississippi, is *Anoka*, a progressive industrial town with good water power. Flour milling and marble working are carried on and among its manufactures are starch, automobiles, and electric supplies. An extensive market for farm products, especially potatoes and dairy products, is growing up.

Farther up the river, seventy-five miles to the north and west, is *St. Cloud*, a large city of the upper Mississippi Valley. St. Cloud is the center of granite quarrying in central Minnesota, and a growing railroad town with large

railroad shops. A sixteen-foot fall in the river affords excellent water power, which is being developed. The Third State Normal School was opened at St. Cloud in 1869. To the north of St. Cloud is the city of *Little Falls*, where the water power of the Mississippi, estimated at 20,000 horse power, is utilized in extensive lumber, paper, and flouring mills. The agricultural interests around Little Falls are also developing rapidly, and many creameries and cheese factories are already in operation.

North and east of Little Falls, and beyond the confluence of the Crow Wing and Mississippi rivers, is found the flourishing city of *Brainerd*. The town stands upon high sandy terraces rising from the Mississippi River and is platted into large squares separated by wide streets. (Fig. 53.) Brickmaking is a great and growing industry, not only in the city but in the region round about it. Railroad shops located here also give employment to many people.

Passing Sandy Lake and the city of *Grand Rapids*, at the entrance to the reservoir region, and continuing beyond lakes Winnibigoshish and Cass to the region of the headwaters of the Mississippi River, we reach the town of *Bemidji*. This is one of the newer towns of Minnesota, with large lumber interests, and a center of trade for the surrounding country.

Towns of the Minnesota Valley. In early days the Minnesota River was the canoe route from the Mississippi to the prairie region of the West—the great Indian hunting ground for the buffalo and the antelope—and to Winnipeg and Hudson Bay. All through this region were scattered communities of Sioux Indians. These communities were sought out by energetic traders, who located trading posts at convenient points. Later many of these early trading posts developed into prosperous towns and flourishing industrial centers.

On the west bank of the Minnesota, about seventy-five miles southwest of St. Paul, is *St. Peter*, one of the oldest towns in the state. Gustavus Adolphus College is located here.

Thirteen miles above St. Peter, at the big bend of the Minnesota, is *Mankato*. Lying at the confluence of the Blue Earth and Minnesota rivers, it is surrounded by a rich farming district, the Undine region. The city is noted for its production of flour and for its quarries. A group of artesian wells furnishes the water supply. Mankato, the site of the Second State Normal School, established in 1868, has grown to be an important educational center. An attractive feature of the suburbs is Minneopa State Park with its beautiful waterfall. *New Ulm*, at the junction of the Minnesota and the

Cottonwood, is an important quarrying city of this region. (Fig. 24.)

In the upper Minnesota Valley, where the Chippewa joins the Minnesota from the north, is *Montevideo*, rapidly developing into an enterprising manufacturing and business center. Near by the city is Camp Release, where stands the soldiers' monument commemorating those



Courtesy, Marie A. Canan, Brainerd

FIG. 53. A scene on one of the business streets of Brainerd.

who fell in the Sioux rebellion of 1862.

Red River Valley Towns. Early fur traders and explorers traversed nearly the entire length of the Red River Valley and carried the story of the fertile region to those wishing to seek new homes. The rapid increase of population along the line of travel from St. Cloud into the Red River Valley is clearly shown on the earlier maps of Minnesota. Later a network of railways was laid upon the level ground of this old lake bottom, to carry the many millions of bushels of wheat raised in the region to the markets of the world.

One of the leading commercial centers of the Red River Valley is *Crookston*, a large wheat market at the junction of several railroads. The city has good water power in the Red Lake

River, where this stream enters the lake portion of its valley. Logs floated down the river are sawed here. North and east of Crookston, at the junction of Thief and Red Lake rivers, is *Thief River Falls*, a lumber market and supply point;



FIG. 54. A section of the city of Faribault, the seat of the *Episcopalian schools of the state.*

southwest of that place, opposite Grand Forks, North Dakota, is the growing town of *East Grand Forks*. *Moorhead* lies on the Red River opposite Fargo, North Dakota. Here is the Fourth Minnesota State Normal School, organized in 1885. In Ottertail County, to the south and east of Moorhead, is *Fergus Falls*, also on Red River and in the famed Lake Park region. Within five miles of the center of the city the river falls nearly 200 feet. This with associated lake reservoirs affords the city exceptional advantages for manufactures. Fergus Falls is a distributing point and the trade center of an excellent farming region.

Towns of the Central Prairie Region. One of the most interesting physiographic features of the state is the high plateau of central Minnesota, with an area of more than 20,000 square miles. As this plateau has been steadily brought under cultivation, convenient distributing centers and market towns have naturally grown up. The plateau is cut into four sections

by two streams, the Mississippi and the Minnesota, which drain its waters southward to the Gulf. The first section, southeastern Minnesota, lies between the Mississippi on the east and the Minnesota-Blue Earth Valley on the west.

Just above the Iowa state line, in the southern tier of counties of this area, is *Albert Lea*, a railroad and an agricultural center. It is the county seat of Freeborn County, one of the well-developed counties of the state.

About twenty miles east of Albert Lea is *Austin*, the county seat of Mower County. It is the trade center for a prosperous agricultural area and the seat of important cement and brick manufactures. To the north and east of Austin and west of Winona is *Rochester*, the center of another rich farming community and the site of several flourishing factories. The work done at St. Mary's Hospital makes Rochester one of the important medical centers of the West.

On the upper course of the Cannon River we find *Owatonna*, a progressive prairie town drawing trade from a large farming district. The mineral water from the Owatonna Springs here has excellent qualities.

As this fertile area becomes more and more thickly settled the demand for nearer trading



FIG. 55. A panoramic view of the city of Duluth. In the background may be seen the bluff along which runs the famous Boulevard Drive.

and business centers increases, and new towns and villages spring up. *Waseca*, another typical prairie town, only about fifteen miles west of Owatonna, is an outgrowth of such conditions. It has broad, well-shaded streets, and within and near the city are several beautiful glacial lakes. *Waseca*, the center of a district largely devoted to dairying and stock raising, is also an important manufacturing city. *Faribault* (Fig. 54), on the Cannon River, is the county seat of Rice County, a rich farming area where dairying, stock and poultry raising, and fruit culture are carried on. The city is one of the largest school centers in the state.

In the northeastern corner of Rice County is *Northfield*, also upon the Cannon River. Dairying is an important industry of the surrounding country. *Goodsell Observatory*, the largest astronomical observatory in the state, is at Northfield.

The slope of the Coteau, the second and higher division of the plateau of central Minnesota, is another region devoted to stock raising and farming. All over the area towns have sprung up in answer to the demand for markets and trade centers. The population map (Fig. 47) shows these towns as having from 1,000 to 5,000 inhabitants. Among these are *Fairmont* in the southeastern section, *Marshall*, *St. James*, *Sleepy Eye*, *Tracy*, and *Worthington* in the central part, and *Pipestone* and *Luverne* in the extreme west, only a few miles from the South Dakota line, all flourishing places.

The third section of the high plateau region, at one time part forest and part prairie, lies to the northeast of the upper course and to the northwest of the lower course of the Minne-

sota River, and extends northwest to the Red River Valley. *Willmar*, the county seat of Kandiyohi County, *Alexandria*, county seat of Douglas County, and in McLeod County *Hutchinson* and *Glencoe*, the county seat, are prosperous towns of this area.

The fourth and smallest portion of the central plateau lies between the Mississippi and the St. Croix, with Mille Lacs at its center. *Brainerd*, *Little Falls*, *St. Cloud*, *Duluth*, *Cloquet*, and especially *Minneapolis* and *St. Paul*, are supply and market centers for the many smaller towns of this section.

Towns of Northeastern Minnesota. The rugged character of the country lying between Lake Superior and the International Boundary, as compared with that of the Mississippi Valley where access to the lumber forests was easier, made settlement slow. Northeastern Minnesota became commercially important by the discovery of iron ore and the construction of railroads for handling this vast wealth. The opening of the Vermilion Iron Range in 1884 and the first shipment of ore from the Mesabi Range in 1892 marked the beginning of what has proved to be the greatest iron ore-producing region in the world. The demand for trade and market centers for the vast quantities of ore from the Vermilion and Mesabi ranges, and for lumber, also of importance, led to the development of many cities and towns. The Cuyuna Range now being developed promises ore second only to that of the Mesabi Range.

Duluth, located at the head of Lake Superior (Fig. 57), stands second only to New York among the ports of the United States in the volume



FIG. 56. A continuation of the view presented in Fig. 55. This shows the many fine business buildings which characterize the city.

of its tonnage. With Two Harbors, it is the principal shipping point for American iron ores. Here millions of feet of lumber are manufactured yearly. It is one of the great grain markets of the world and the chief distributing point for coal and merchandise for the Northwest. Duluth (Figs. 55 and 56) contains many fine parks and its boulevard along an ancient beach line of the lake, now 475 feet above Lake Superior, is the most beautiful driveway in the state. The city is the seat of the Fifth State Normal School, established in 1902. Its geographic situation is unrivaled, and as the port of shipment of the transcontinental railways of America and the shipping mart for a vast productive region, the "Head of the Lakes" is destined to become one of the world's great commercial centers.

Inland about twenty miles from Duluth on the St. Louis River is *Cloquet*. The falls at this point afford vast water power utilized by many industries. Minneapolis, Duluth, and Cloquet are the largest lumber-manufacturing centers in the state.

On the shore of Lake Superior, about thirty miles to the northeast of Duluth, is *Two Harbors*, the only city in Lake County. Two Harbors owes its name to a twofold indentation of the coast by which a double harbor is formed. The original ore-shipping point for the Minnesota iron ranges, it is still the sole port for the Vermilion Range, several million tons of ore being shipped annually from here. Located at the foot of a valley down which a railroad brings ore to its lake ore docks, the city has naturally become a business center for this region.

The need for nearer points of supply at the ter-

minals of the railroads leading to the ore docks has led to the development of several important mining towns. One of the most important of these is *Hibbing*, an "Iron Range town" of the Mesabi. It is the largest producing iron-ore camp in the world.

Virginia, a progressive mining town of the Mesabi Range, is not only the center of a large lumber trade but is also the seat of several growing lumber industries, and an important trade center of northeastern Minnesota.

Other important towns of the Mesabi Range

are *Eveleth* (Fig. 25), *Chisholm*, and *Coleraine*. The tract of land upon which *Eveleth* was originally located proved later to be over a valuable body of iron ore. Owing to this, the entire city was moved one mile and reestablished. Eveleth's annual output of iron ore exceeds four million tons. Six miles east of Eveleth is the new mining town of *Gilbert*. When valuable iron ores were discovered beneath the little town of *Sparta* the buildings were removed to this site. Mining and lumbering are both of importance to *Chisholm*. *Coleraine*, a new town on the western Mesabi Range, was built by the Mining Company. The town site is owned by

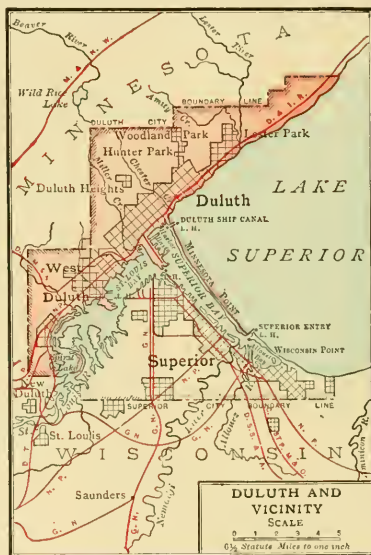


FIG. 57. A map of Duluth and vicinity.

the company and lots are leased to employees, tradespeople, and city government.

Ely, a railroad terminus, is the most flourishing town of the Vermilion Iron Range. The city, with the near-by town of *Winton*, is the center of the lumber trade of northeastern Minnesota and the gateway from the United States into the Hunters Island region of Ontario. *International Falls*, on the Canadian border, is at the falls of the Rainy River, which affords splendid water power. Here is the largest paper and pulp mill in the state.

III. STATISTICS AND AIDS TO TEACHERS

Statistics of the State of Minnesota by Counties, Federal Census of 1900 and 1910.

COUNTY	ORGANIZATION	AREA	POPULATION		NUMBER CITIES AND VILLAGES	ALTITUDE ABOVE SEA	FARM PROPERTY INCLUDING LIVE STOCK	PRODUCTS NOT FEED TO LIVE STOCK	MANUFACTURES	COUNTY SEAT	POPULATION	
			1910	1900							1910	1900
Aitkin.....	1857	1,850	10,371	6,743	3	1,275	\$ 1,126,397	\$ 227,447	\$ 253,100	Aitkin.....	1,638	1,770
Anoka.....	1857	447	12,403	11,813	3	0	4,148,040	720,466	4,381,028	Anoka.....	3,072	3,700
Becker.....	1858	1,380	18,849	14,375	0	1,440	5,261,249	1,062,238	647,064	Detroit.....	2,807	2,660
Beltrami.....	1866	4,080	10,337	11,039	11	1,200	1,307,034	224,088	407,707	Bemidji.....	5,000	2,183
Benton.....	1840	397	11,615	6,012	3	1,000	3,869,727	68,085	648,085	Bellevue.....	710	1,72
Big Stone.....	1867	484	9,367	8,731	3	1,000	1,423,116	226,500	226,500	Ortonville.....	1,774	1,247
Blue Earth.....	1853	750	20,337	32,703	10	1,000	21,682,968	2,808,152	3,464,174	Mankato.....	10,305	10,590
Brown.....	1855	911	20,134	10,937	5	1,025	13,320,591	1,062,215	4,195,201	New Ulm.....	5,648	5,493
Carlton.....	1857	859	17,550	10,787	7	1,240	930,064	154,038	3,857,281	Carlton.....	507	440
Carver.....	1855	369	17,455	17,544	10	1,055	9,340,461	1,540,106	6,838,800	Chaska.....	2,050	2,105
Cass.....	1851	2,077	11,020	7,777	8	1,335	855,735	164,465	2,597,235	Walker.....	917	500
Chippewa.....	1862	583	13,858	12,400	0	1,050	9,037,175	1,052,002	550,085	Montevideo.....	3,050	2,140
Chicago.....	1851	440	13,537	13,248	8	915	5,099,326	1,081,154	577,095	Center City.....	252	.....
Clay.....	1862	1,022	19,640	17,042	10	1,030	11,938,232	2,544,500	790,136	Moonrhead.....	4,890	.....
Clearwater.....	1902	.....	6,870	.....	3	1,412	.....	.....	.....	Bagley.....	801	248
Cook.....	1874	1,400	1,136	810	1	1,550	63,955	8,747	118,760	Grand Marais.....	355	.....
Cottonwood.....	1857	934	12,651	12,660	7	1,350	11,328,057	1,745,332	2,31,357	Windom.....	1,740	1,044
De Sauter.....	1855	720	10,040	22,095	7	1,200	1,051,103	1,592,403	2,085,645	Brainerd.....	8,506	7,524
Dakota.....	1840	604	25,171	21,733	12	0	11,793,346	2,163,580	7,340,332	Hastings.....	3,083	3,811
Dodge.....	1855	412	12,094	13,308	7	1,250	0,640,612	1,510,532	448,104	Montaville.....	410	602
Douglas.....	1858	685	17,600	17,004	7	1,185	8,273,501	1,867,590	606,613	Alexandria.....	3,001	2,681
Fillmore.....	1853	525	25,080	28,238	13	1,170	20,358,108	3,062,713	801,000	Preston.....	1,193	1,278
Freeborn.....	1855	720	22,282	21,838	8	1,250	17,412,250	2,900,091	1,880,714	Albert Lea.....	0,102	4,500
Goodhue.....	1853	744	31,637	31,377	7	1,045	18,044,017	3,027,104	31,30,582	Red Wing.....	9,048	7,525
Hennepin.....	1855	535	19,040	22,035	13	1,155	19,009,800	3,027,104	31,30,582	St. Louis Park.....	7,310	2,660
Houston.....	1854	501	14,207	15,400	0	0	9,044,080	1,030,451	352,800	Caledonia.....	1,372	1,715
Hubbard.....	1883	547	9,831	6,578	0	1,404	1,017,940	188,155	1,021,000	Park Rapids.....	1,801	1,313
Isanti.....	1840	410	12,615	11,075	3	1,005	4,331,320	820,800	225,514	St. Cloud.....	6,887	7,300
Itasca.....	1840	557	15,205	15,075	0	1,425	1,017,940	188,155	1,021,000	Grand Rapids.....	2,239	1,438
Jackson.....	1857	720	14,401	14,703	5	1,430	14,143,654	1,810,921	283,841	Jackson.....	1,907	1,750
Kanabec.....	1858	536	6,401	4,614	2	1,100	1,516,717	182,471	100,604	Mora.....	802	785
Kandiyohi.....	1858	536	18,000	18,470	7	1,150	11,715,626	1,084,622	667,374	Fillmar.....	4,135	3,400
Kittson.....	1859	1,050	9,831	2,889	5	901	6,328,478	8,273,501	1,084,622	Halluk.....	2,101	1,115
Koochiching.....	1906	.....	6,431	.....	4	1,250	.....	.....	.....	Internat'l Falls.....	1,487	.....
Lac qui Parle.....	1871	703	15,435	14,280	7	1,120	12,830,550	2,434,600	208,608	Madison.....	1,811	1,320
Lake.....	1850	2,122	8,911	4,654	1	1,515	30,705	6,530	815,327	Two Harbors.....	4,000	3,373
Le Sueur.....	1857	720	10,040	22,095	7	1,200	11,793,346	2,163,580	7,340,332	St. Peter Center.....	8,506	7,524
Lincoln.....	1873	528	8,874	8,060	0	1,725	7,677,345	1,344,880	116,608	Ivanhoe.....	484	.....
Lyon.....	1868	714	15,722	14,501	9	1,320	11,709,475	2,124,400	772,247	Marshall.....	2,152	2,088
McLeod.....	1853	504	18,091	16,505	8	1,640	12,441,951	1,040,713	504,477	Glenwood.....	1,788	1,780
Mahnomen.....	1900	.....	15,435	.....	1	1,100	.....	.....	.....	.....	.....	.....
Marshall.....	1870	1,784	10,338	15,908	7	1,010	8,401,457	1,827,907	3,027,104	Warren.....	1,013	1,276
Martin.....	1857	732	17,518	10,930	11	1,225	16,250,750	1,068,386	503,371	Fairmont.....	2,958	3,040
Meeker.....	1850	613	17,022	17,636	7	1,125	11,849,710	1,055,417	707,704	Litchfield.....	2,333	2,280
Miller Lake.....	1857	570	10,705	8,060	6	1,200	1,262,1803	3,024,518	1,046,646	Princeton.....	1,555	1,101
Morrison.....	1850	1,126	20,453	22,801	0	1,220	6,170,050	1,102,016	2,386,428	Little Falls.....	6,078	5,774
Mower.....	1855	700	22,602	22,335	12	1,300	20,282,145	2,707,700	1,253,148	Austin.....	0,600	5,474
Murray.....	1857	708	11,755	11,011	8	1,500	12,416,245	1,078,500	214,400	Slayton.....	850	583
Nicollet.....	1853	458	14,125	14,774	5	970	10,156,362	1,413,601	801,055	St. Peter.....	4,170	4,302
Nobles.....	1862	720	15,210	14,932	12	1,585	14,501,623	2,280,810	208,400	Worthington.....	2,385	2,386
Norman.....	1881	1,425	33,440	15,045	0	1,025	9,615,630	1,402,440	206,805	Ada.....	1,432	1,253
Olmsted.....	1855	644	22,407	23,110	7	1,180	18,817,330	2,550,702	1,160,730	Rochester.....	7,844	6,543
Ottertail.....	1858	2,127	40,630	45,375	17	1,355	18,895,532	3,544,557	1,711,093	Faribault.....	6,672	6,672
Pennington.....	1901	701	4,370	.....	2	1,041	.....	.....	.....	Thief River Falls.....	3,714	1,810
Pine.....	1850	1,425	15,878	15,150	8	975	2,273,424	318,576	1,223,558	Pine City.....	1,258	903
Pipestone.....	1857	406	9,553	9,264	7	1,715	7,280,618	1,258,270	225,900	Pipestone.....	3,475	2,530
Polk.....	1853	1,503	36,031	35,420	12	1,030	10,581,141	3,024,260	1,636,260	Wadena.....	7,550	5,500
Pope.....	1860	1,840	12,746	12,577	8	1,075	12,746,127	1,602,517	1,130,717	Glenwood.....	1,788	1,780
Ramsey.....	1840	177	223,675	170,554	4	805	5,621,073	1,098,880	30,425,780	St. Paul.....	214,744	163,065
Red Lake.....	1807	415	6,504	12,103	4	1,100	3,407,214	717,078	1,430,352	Red Lake Falls.....	1,757	1,885
Redwood.....	1862	870	18,425	17,201	16	1,000	10,404,750	2,350,670	447,577	Redwood Falls.....	1,666	1,661
Renville.....	1853	610	21,223	21,603	12	1,055	18,580,120	3,215,004	74,008	Olivia.....	960	970
Rice.....	1853	407	25,011	26,200	8	1,065	14,203,328	2,062,018	3,253,735	Faribault.....	9,001	7,968
Rock.....	1857	405	10,222	9,668	0	1,510	10,706,014	1,763,121	158,713	Luverne.....	5,440	2,223
Roseau.....	1805	1,092	11,338	9,004	5	1,050	2,229,543	20,183	88,340	Balsam Lake.....	75,400	2,223
Saint Louis.....	1854	510	10,371	8,913	10	1,145	1,152,408	1,577,076	158,713	Duluth.....	28,490	52,099
Scott.....	1853	369	14,888	15,147	8	925	8,738,720	1,300,878	1,520,022	Shakopee.....	2,302	2,047
Sherburne.....	1856	406	8,130	7,281	5	1,000	3,420,140	61,092	34,643	Elk River.....	850	831
Sibley.....	1853	588	15,540	16,862	7	1,000	13,438,363	1,050,182	540,700	Henderson.....	753	604
Stearns.....	1857	910	21,223	21,603	12	1,055	18,580,120	3,215,004	74,008	St. Cloud.....	1,666	1,661
Steele.....	1855	420	16,140	16,830	3	1,225	16,203,328	2,062,018	3,253,735	Owatonna.....	5,658	5,561
Stevens.....	1862	557	8,293	8,731	4	1,110	6,651,261	1,305,500	60,660	Morris.....	1,635	1,034
Swift.....	1870	740	12,400	12,400	3	1,075	6,467,170	1,068,333	570,213	Benson.....	1,677	1,525
Todd.....	1857	810	21,223	21,603	12	1,055	18,580,120	3,215,004	74,008	St. Cloud.....	1,666	1,661
Traverse.....	1862	545	8,040	9,573	5	1,045	7,021,840	1,476,927	188,700	Wheaton.....	1,300	1,132
Wabasha.....	1840	531	18,554	18,624	11	1,205	12,080,170	1,040,613	1,361,668	Wabasha.....	2,022	2,528
Wadena.....	1858	532	8,652	7,021	4	1,350	2,044,621	409,610	260,800	Wadena.....	1,820	1,520
Waseca.....	1856	531	18,554	18,624	11	1,205	12,080,170	1,040,613	1,361,668	Waseca.....	2,022	2,528
Washington.....	1840	402	20,613	27,808	7	911	6,651,261	1,305,500	5,580,000	Stillwater.....	10,108	12,318
Watsonwan.....	1860	432	11,882	11,400	5	1,110	9,506,562	1,291,126	656,211	St. James.....	2,102	2,007
Wilkin.....	1868	720	9,662	8,850	7	1,000	7,252,205	1,388,030	105,368	Brckenridge.....	1,840	1,282
Winona.....	1858	810	21,223	21,603	12	1,055	18,580,120	3,215,004	74,008	Winona.....	1,666	1,661
Wright.....	1855	680	23,802	20,177	15	1,000	14,018,280	2,267,050	834,474	Buffalo.....	1,227	1,040
Yellow Medicine.....	1871	744	15,401	14,602	8	1,105	12,080,170	2,253,540	28,140	Granite Falls.....	1,454	1,214

State or Country of Birth of Population of Minnesota, Federal Census of 1900 and State Census, 1905.

STATE	NUMBER	COUNTRY	NUMBER
Native to state	804,010	Sweden	126,283
Wisconsin	81,212	Germany	110,803
New York	44,342	Norway	111,611
Iowa	42,096	Canada	47,211
Illinois	36,012	Finland	19,847
Michigan	10,389	Ireland	19,311
Ohio	18,071	Denmark	10,206
Pennsylvania	16,492	Austria	14,403
Indiana	10,761	England	11,508
Maine	10,389	France	8,853
North Dakota	9,007	Bohemia	8,403
South Dakota	7,204	Poland	7,870
Massachusetts	7,240	Scotland	4,641
Vermont	6,273	France	1,277
Other states and territories	41,574	Other countries	18,330
Total native born	1,246,076	Total foreign born	537,041

The Population of Minnesota at Each Federal Census from 1850 to 1910.

YEAR	RANK OF STATE	POPULATION	INCREASE IN TEN YEARS	PER CENT OF INCREASE	DENSITY PER SQ. MILE
1850	36	6,077	...	...	...
1860	30	17,213	10,046	27.7	11.2
1870	28	44,709	27,083	155.0	5.6
1880	26	77,773	34,067	77.0	9.0
1890	20	1,301,840	521,053	66.7	16.5
1900	19	1,751,304	449,464	33.8	22.1
1910	10	2,075,793	324,489	18.5	25.7

Population of the Principal Cities and Towns of Minnesota, at Each Federal Census from 1860 to 1910.

CITY	1910	1900	1890	1880	1870	1860
Minneapolis	301,408	202,718	104,738	40,887	13,066	2,564
St. Paul	214,744	163,065	133,150	41,473	20,030	10,401
Duluth	78,400	52,060	33,115	8,538	3,131	810
Stillwater	18,253	10,711	18,208	10,208	7,117	2,404
St. Cloud	10,600	8,063	7,686	2,462	2,161	...
Virginia	10,473	2,902	...	...	...	...
Mankato	10,395	10,599	8,838	5,559	3,482	...
Stillwater	10,374	6,790	6,318	6,955	4,124	2,380
Red Wing	9,048	7,525	6,204	5,876	4,200	1,156
Faribault	9,001	7,868	6,520	5,415	3,045	...
Hibbing	8,812	2,481	...	...	...	...
Brainerd	8,530	7,524	5,792	1,805	...	...
Rochester	7,844	6,843	5,321	5,103	3,593	1,424
Chisholm	7,684	...	...	...	...	...
Crookston	7,550	5,350	3,457	1,227	...	...
Eveleth	7,036	7,757	...	...	...	...
Cloquet	7,031	3,072	2,530	...	...	...
Austin	6,060	5,474	3,001	2,305	2,030	200
Fergus Falls	6,887	6,072	3,772	1,638	...	...
Albert Lea	6,170	4,500	3,305	1,066	...	...
Little Falls	6,078	5,774	2,354	598	...	...
Owatonna	5,658	5,501	3,840	3,161	2,070	...
New Ulm	5,648	5,443	3,741	2,471	...	...
Bemidji	5,000	2,183	...	...	...	...
Two Harbors	4,000	3,278	...	...	...	...
Moorhead	4,840	3,710	2,088	...	...	...
South St. Paul	4,810	2,322	2,242	...	...	...
St. Peter	4,402	3,819	1,305	541	...	...
Willmar	4,135	3,400	1,825	1,002	...	...
Hastings	3,983	3,811	3,705	3,800	3,458	1,053
Anoka	3,972	3,760	4,252	2,700	...	...
Thief River Falls	3,714	4,392	3,673	3,436	2,124	...
Ely	3,572	3,717	901	...	...	...
Northfield	3,205	3,210	2,050	2,296	...	...
Lake City	3,142	2,744	2,128	2,560	...	...
Montevideo	3,060	2,446	1,437	1,862	...	...
Waseca	3,054	3,103	2,482	1,708	551	...
West Minneapolis	3,022	1,648	...	...	...	...
Alexandria	3,001	2,681	2,118	1,355	...	...
Fairmont	2,918	3,079	1,305	541	...	...
Detroit	2,807	2,000	1,510	510	...	...
Richfield	2,073	...	...	...	...	...
West St. Paul	2,060	1,810	1,500	...	...	...
Wabasha	2,062	2,146	2,487	2,688	1,730	...
Melrose	2,501	1,768	790	...	...	...
Stables	2,558	1,504	...	...	...	...
Luverne	2,540	2,223	1,406	670	...	...
East Grand Forks	2,533	2,077	705	...	...	...
Pipestone	2,475	2,510	1,212	224	...	...
Worthington	2,385	2,350	1,104	630	...	...
Hutchinson	2,308	2,405	1,414	580	...	...
Littleton	2,333	2,280	1,800	1,250	351	...

Population of the Principal Cities and Towns—Continued.

CITY	1910	1900	1890	1880	1870	1860
Blue Earth	2,310	2,000	1,560	1,060	...	...
Shakopee	2,302	2,047	1,752	2,011	1,349	...
Sleepy Eye	2,247	2,046	1,513	...	...	...
Proctor Knott	2,243	784	...	...	...	...
Grand Rapids	2,230	1,428	...	...	...	...
Glenwood	2,161	1,116	...	...	...	...
Sauk Center	2,154	2,220	1,605	1,201	...	...
Marshall	2,152	2,088	1,203	961	...	...
St. James	2,102	2,007	930	444	...	...
Nashvauk	2,080	...	...	...	...	...
Chaska	2,050	2,165	2,101	1,068	...	...
Cass Lake	2,011	540	...	...	...	...

Principal Items of Minnesota's Wealth, United States Bureau of Statistics, 1900-1904.

ITEMS	1900	1904
(a) Real property and improvements	\$1,457,295,712	\$1,082,552,380
Live stock	95,876,400	126,353,319
Farm implements and machinery	30,099,230	35,073,007
Manufacturing machinery, tools, and implements	37,053,943	45,121,097
Gold and silver, coin and bullion	33,105,250	35,047,501
(b) Railroads and their equipment	347,150,000	466,734,000
Street railways, waterworks, shipping, etc.	81,007,668	126,062,305
(c) Personal and other property	430,082,623	521,276,058
Total	\$2,513,626,826	\$3,343,722,076

- (a) Exclusive of railroad and other property, which in certain states is classed as "real," but in the census estimate wealth is referred to as "personal and other."
(b) Including telegraph and telephone system, electric light and power stations, Pullman and private cars, and canals.
(c) Including products of agriculture, manufactures and mining, imported merchandise, clothing and personal adornments, furniture, carriages, and other kindred property.

Value of Agricultural Products of Minnesota, Federal Census of 1900 and Year Book, U. S. Dept. of Agriculture, 1908.

PRODUCT	RANK OF STATE	1900	1908
All crops	9	\$113,002,602	...
All cereals	4	85,817,555	...
All vegetables	22	4,072,373	...
All fruits	36	464,312	...
Wheat	1	50,001,048	\$64,444,000
Oats	4	15,839,804	25,377,000
Hay and forage	12	14,585,381	8,216,000
Corn	20	11,337,105	25,750,000
Barley	2	7,220,730	15,025,000
Rye	5	783,552	1,026,000
Buckwheat	14	4,372,141	...
Potatoes	9	3,408,007	6,171,000
Miscellaneous vegetables	29	1,372,007	...
Beans	10	40,605	...
Onions	17	130,404	...
Flaxseed	2	5,808,550	5,431,000
Clover seed	10	34,530	...
Grapes and small fruits	23	355,102	...
Orchard products	43	109,050	60,000
Dairy products	13	16,623,400	...
Eggs	12	4,437,143	...
Wool	25	460,305	...
Honey and wax	22	118,584	...

Value of Live Stock in Minnesota, Federal Census of 1900 and Year Book, U. S. Dept. of Agriculture, 1908.

LIVE STOCK	RANK OF STATE	1900	1908
All domestic animals	12	\$86,620,643	...
Horses and mules	10	42,741,624	\$76,130,000
Cattle	10	26,218,650	48,000,000
Swine	10	5,805,690	8,610,000
Sheep	27	1,740,088	1,680,000
Poultry	10	2,027,717	1,638,000
Bees	23	107,282	...

Some of the Leading Industries of Minnesota and the Value of their Products, from the Federal Census of 1900 and Census Bulletin 46, 1905.*

INDUSTRY	YEAR	NUMBER OF PLANTS	CAPITAL	NUMBER OF WAGE EARNERS	AMOUNT OF WAGES PAID	COST OF MATERIAL	VALUE OF PRODUCT
Total for state.	1905	4,750	\$184,003,271	60,636	\$35,844,145	\$210,553,040	\$707,858,073
	1900	11,114	105,832,240	77,234	15,484,825	173,425,615	202,655,881
Flour and grist mill products.	1905	363	34,857,300	4,481	2,050,811	100,000,073	122,059,123
	1900	512	24,125,781	4,686	2,381,816	74,500,131	83,877,700
Lumber and timber products.	1905	222	28,053,854	17,213	8,651,071	12,302,578	33,183,300
	1900	438	52,005,023	15,140	7,140,571	26,047,781	43,585,161
Slaughtering and meat packing, whole sale.	1905	14	3,280,385	1,320	750,203	14,373,743	10,731,276
	1900	10	1,211,686	1,280	280,403	5,050,371	6,805,112
Butter, cheese, and condensed milk.	1905	77	3,305,120	1,041	633,532	11,130,505	12,871,120
	1900	506	2,204,050	740	308,224	7,188,711	8,770,860
Printing and publishing.	1905	803	8,510,720	4,340	2,503,603	2,642,350	11,103,358
	1900	793	5,310,230	4,788	1,707,168	1,628,016	7,606,824
Lumber, planing-mill products, including sash, doors, and blinds.	1905	94	5,310,230	2,858	1,482,831	4,078,161	7,640,212
	1900	61	2,480,374	1,630	607,001	2,610,848	3,088,270
Cars and general shop construction and repairs by steam railroad companies.	1905	24	6,001,326	5,707	3,300,130	3,715,730	7,370,027
	1900	30	4,933,805	4,700	2,500,397	3,390,444	6,310,976
Oil, linseed.	1905	5	3,201,004	353	203,508	6,080,474	7,018,234
	1900	5	1,063,231	155	81,081	2,051,004	3,272,508
Foundry and machine-shop products.	1905	163	5,855,303	2,620	1,554,035	2,614,876	6,246,184
	1900	175	4,207,322	3,130	1,512,579	2,575,777	5,605,077
Malt liquors.	1905	70	1,355,125	1,035	600,504	1,730,004	6,177,528
	1900	78	8,530,722	850	417,832	807,001	4,450,528
Bread and other bakery products.	1905	272	2,508,707	1,347	606,020	2,658,002	4,610,507
	1900	170	1,500,471	772	331,427	1,531,110	2,720,490
Boots and shoes, factory product.	1905	170	2,435,305	1,714	118,000	2,631,680	4,160,732
	1900	10	2,237,540	2,025	710,231	2,378,150	3,615,801
Fur goods.	1905	35	2,542,597	1,230	407,105	2,011,528	3,378,731
	1900	40	1,235,570	430	230,135	1,214,506	2,140,003
Tobacco—chewing, smoking; snuff, cigars, and cigarettes.	1905	31	1,608,650	1,780	387,453	1,098,122	3,205,354
	1900	30	1,224,700	1,502	601,878	954,143	2,711,042
Patent medicines and compounds.	1905	68	1,702,701	206	110,327	1,282,747	2,080,115
	1900	71	1,071,643	177	61,473	300,311	887,610
Clothing, factory made.	1905	35	2,093,054	1,005	545,507	1,714,047	2,808,065
	1900	33	1,260,300	2,232	636,004	1,562,555	2,600,101
Agricultural implements.	1905	21	7,703,310	1,170	637,232	1,080,641	2,885,055
	1900	18	37,306,055	628	423,054	1,781,004	1,763,780
Structural ironwork.	1905	2	2,500,800	1,483	1,357,288	1,634,113	2,840,362
	1900	...	...	...	...	...	...
Furniture, factory product.	1905	51	2,250,600	1,475	601,380	1,023,338	2,501,776
	1900	32	1,720,401	1,148	451,131	943,312	1,632,188
Gas, illuminating and heating.	1905	16	1,386,650	575	168,518	2,236,334	2,203,347
	1900	11	8,800,676	375	168,518	303,808	1,075,852
Cooperage.	1905	32	500,178	730	373,884	1,203,848	1,913,338
	1900	42	3,344,700	615	1,013,900	1,013,905	1,505,527
Coffee and spice, roasting and grinding.	1905	13	753,050	526	290,208	1,017,722	1,605,451
	1900	40	401,025	146	53,240	867,500	1,250,300
Carriages and wagons.	1905	134	2,150,885	872	424,777	781,727	1,715,858
	1900	104	1,860,504	1,000	401,205	877,885	1,059,074
Saddlery and harness.	1905	33	1,725,530	526	290,208	1,017,722	1,605,451
	1900	512	1,007,041	884	367,307	1,504,213	2,618,361
Confectionery.	1905	27	824,561	646	202,138	610,207	1,674,330
	1900	53	410,782	485	131,030	780,443	1,410,000
Food preparations.	1905	16	550,040	271	108,828	925,881	1,590,513
	1900	10	221,553	168	44,340	488,343	700,590
Coppersmithing and sheet iron working.	1905	60	801,608	654	307,075	640,417	1,478,048
	1900	101	1,688,273	903	466,478	...	1,227,135
Brick and tile.	1905	104	1,040,650	840	328,800	185,284	772,308
	1900	10	668,304	615	100,148	626,001	1,202,586
Hosiery and knit goods.	1905	8	448,004	203	77,580	107,184	410,000
	1900	8	317,855	138	91,008	100,000	1,100,235
Furs, dressed.	1905	8	67,710	04	41,088	30,210	125,300
	1900	7	1,310,175	60	514,28	897,423	1,107,030
Malt.	1905	5	314,387	28	13,855	166,553	241,022
	1900	4	1,490,002	306	234,378	676,540	1,145,818
Paper and wood pulp.	1905	...	...	...	...	...	...
	1900	...	...	...	...	...	...

The Leading Manufacturing Cities of Minnesota and Some Facts Concerning their Industries, Federal Census of 1900 and Census Bulletin 46, 1905.*

CITY	YEAR	NUMBER OF PLANTS	NUMBER OF WAGE EARNERS	AMOUNT OF WAGES PAID	VALUE OF PRODUCT
Minneapolis	1905	877	21,752	\$11,460,385	\$121,503,120
	1900	2,368	26,668	12,708,523	110,943,043
St. Paul	1905	614	14,363	7,210,757	35,138,704
	1900	1,501	17,503	7,660,805	38,541,030
Duluth	1905	103	3,087	2,185,783	10,130,000
	1900	433	3,008	2,145,440	10,628,057
Winona	1905	86	1,023	804,098	7,850,382
	1900	162	2,214	928,400	6,676,382
Mankato	1905	54	724	303,300	3,422,117
	1900	135	683	242,742	2,242,000
Stillwater	1905	36	955	454,145	2,784,113
	1900	114	2,803	1,122,330	4,094,702

The Total Amount of Iron Ore (Long Tons) Produced Annually in Minnesota, from 1884 to 1908, U. S. Geological Survey.

YEAR	AMOUNT	YEAR	AMOUNT	YEAR	AMOUNT
1884	6,112	1895	4,866,453	1906	25,304,077
1885	227,075	1896	4,283,880	1907	28,060,658
1886	307,648	1897	5,601,420	1908	18,652,220
1887	304,010	1898	5,063,500	Total	196,708,000
1888	311,053	1899	8,611,289		
1889	804,508	1900	9,834,390		
1890	801,010	1901	11,109,537		
1891	945,105	1902	15,137,050		
1892	1,555,465	1903	15,371,306		
1893	1,409,977	1904	12,728,815		
1894	2,668,403	1905	21,735,182		

*Statistics for 1905 include only factory products; for previous census, all products.

SUGGESTIVE QUESTIONS TO ACCOMPANY THE GEOGRAPHY OF MINNESOTA

Location and Size. (1) Describe Minnesota's position in North America. (2) Within what physical division of the continent is the state? (Adv. Geog., Fig. 173.) (3) What three important river systems are within the state? (4) On a map of the United States trace and describe the boundaries of Minnesota. (5) On the globe trace the 49th parallel of latitude, noting all countries and cities crossed by it. (6) On the map of the United States select the states which seem to be larger than Minnesota. (7) On the state map locate Lake of the Woods, Pigeon Point, Big Stone Lake, Lake St. Croix, Ortonville, and Stillwater. (8) How much longer is the greatest length of the state than the width of the narrowest portion?

Surface and Drainage. (1) Describe the southern portion of the state as to surface, vegetation, industries and crops. (2) Where is the highest ground of this section? What is its altitude? (3) Describe, as to surface and industries, the Lower Mississippi Valley; the Mississippi-Minnesota Valley; the Upper Mississippi Valley. (4) On the physical map locate the Red River Valley. (5) Make three statements in regard to its slopes, vegetation, and crops. (6) What was Lake Agassiz? (7) Locate the Rainy River Valley on the physical map. (8) Describe the surface of northeastern Minnesota. (9) Why is this section called the rocky region of the state? What are its resources? (10) To what three great systems does the drainage of Minnesota belong? (11) Trace and describe that portion of each of these systems found within the state. (12) Distinguish between the river valleys of the northwestern and southeastern sections. (13) What is a divide? (14) What is the International Boundary?

Lakes. (1) For what striking scenic feature is Minnesota noted? (2) State seven important functions of lakes. (3) On the map locate the area containing most of the lakes of Minnesota. (4) What is the origin of the greater number of these lakes? (5) What happens to many glacial lakes? (6) In what way were Lac qui Parle and Lake Pepin formed? (7) What is the third type of lakes found in Minnesota? (8) Where are they found? (9) Trace the course of the Mississippi from Lake Itasca to the Iowa state line, locating all the tributary lakes in order.

Geological Growth. (1) What characteristic marked the early land of Minnesota? (2) What disturbances were features of this early period? (3) In what sections are the many formations of these years to be found? (4) Why do geologists conclude that the time of submergence beneath the sea was comparatively short for Minnesota? (5) What is the Glacial Period? A glacier? (6) What traces show that the vast ice sheet advanced and retreated many times?

Underground Waters. (1) Explain the source of the ground-water supply of Minnesota. (2) What is an artesian well? An artesian basin? (3) By what means may a pure supply of water be secured? (4) Distinguish between ground water and rain.

Climate. (1) The state lies in what climatic area? (2) What is the result of this? (3) What month usually marks the opening of spring in Minnesota? The close of the growing season? (4) In what section is the heaviest rainfall? The lightest? (5) How does the snowfall of Minnesota compare with that of other states?

Vegetation. (1) In early days the forests occupied what portions of the state? The prairies what portions? (2) What timber trees were found? (3) Sketch leaf forms of five of these. (4) Name and locate by counties the National Forests of Minnesota.

Animals. (1) What animal was king of the prairie? Where can you find these animals now? (2) Name the wild animals found in the forests of the state. (3) What trade was a feature of the early history of this region? (4) Among the fur-bearing animals, which are the most valuable? (5) How are these animals secured? (6) What natural features of the state attract wild ducks and geese?

Agriculture. (1) What is the leading industry of Minnesota? (2) In the central and northern portions, what industry came first? Why? (3) What is the most important crop of the southern farmer? Why is this the most important? (4) What crop ranks second? (5) Name four other farm products. (6) Why do stock raising and dairying prosper? (7) What was Minnesota's rank among dairying states in 1900? (8) What fruits are raised?

Quarrying and Mining. (1) What is a quarry? (2) Name eight rocks of Minnesota that are quarried. (3) On your own map locate the principal quarry grounds for sandstone; quartzite; limestone; dolomite; gneiss; granite; slate. (4) Why is quarrying in Minnesota comparatively easy? (5) What is the leading mineral product? (6) How does Minnesota rank among the iron-producing regions of the world? (7) Describe the two varieties of iron ore found, and locate the ranges producing each. (8) What is the annual shipment of ore from these ranges? (9) Explain the process of mining Minnesota ore.

Manufactures. (1) Locate the old Ramsey mill. (2) How long is it since the first flouring mill began operating at the Falls of St. Anthony? (3) Why was it located there? (4) In 1908 what was the value of the output from this center? (5) What timber tree is used in the lumbering industry of the state? (6) The rivers of Minnesota furnish what great resource that aids in developing manufactures

Commerce. (1) Upon what two features does commerce depend? (2) What is the chief means of transportation in Minnesota? (3) In which ten years did the railroad mileage of Minnesota show the most increase? (4) What means for water transportation has Minnesota? (5) Explain the development of the ports, Duluth and Two Harbors.

Early History. (1) Minnesota formed a part of what great territory? (2) What section of the state was explored by Captain Carver? (3) By whom and for what purpose were Lewis and Clark sent out? What was Lieutenant Pike's errand? (4) Describe the explorations of General Cass; Henry R. Schoolcraft. (5) On the historical map locate Major Long's route. (6) What great Indian tribe occupied the southern portion of the state? (7) What traces were left by earlier inhabitants? (8) Who were the first white men in Minnesota? (9) What points are associated with Sieur du Luth? With Father Hennepin? (10) What was the Hudson Bay Company?

People. (1) How long since Minnesota became a state? (2) The development of what interests led to the settlement of northern Minnesota? (3) What part of the total population was born in Minnesota? What part is foreign-born?

Government. (1) Who represents Minnesota in Congress? (2) Of what does the state Legislature consist? Where does it meet? (3) Name the six leading state officers. (4) Who form the present State Board of Control? (5) Give the leading county officers of your county.

Education. (1) How long has the public school system been developing? (2) Of what does it consist? (3) Where is the State University located? How is it supported? (4) Sketch your own map and locate the leading educational institutions.

Charities and Corrections. (1) How does Minnesota care for the unfortunates of the state? (2) Locate these various institutions on the state map.

Cities and Towns. (1) What part of the people of Minnesota live in the cities and towns? Why is this per cent so small? (2) What are the Twin Cities? (3) Describe Minneapolis as to location, natural advantages and resources, history, industries, products, and trade. (4) Describe the location of St. Paul. (5) Make three statements to show how rapidly the city has grown. (6) What industry is especially important? Name six manufactured products. (7) What educational institutions are located in St. Paul? In Minneapolis? (8) What is the Mississippi Valley route? Locate five important towns along this route. (9) Of what regions is Winona a trade center? (10) What natural advantages has Wabasha? (11) Lake City possesses what distinguishing points? (12) What is the chief manufactured product of Red Wing? (13) Describe Hastings Stillwater. (14) What natural advantages has Anoka? (15) Name and locate six important towns of the Upper Mississippi Valley. (16) St. Cloud is the center of what industry? (17) What great natural resource has Little Falls? (18) Name two distinguishing industries of Brainerd. (19) Why is Bemidji of importance? (20) Describe the development of Minnesota Valley towns. (21) Name and locate four important towns of this section. (22) What distinguishes all the towns of the Red River Valley? Name and locate five. (23) Locate the leading towns of each of the three largest divisions of the Central Prairie Region. (24) Name the leading industries of each division. (25) What lake is the center of the fourth and smallest division? (26) What led to the development of towns in northeastern Minnesota? (27) Describe position, natural advantages, and interests of Duluth. (28) What natural resources has Cloquet? (29) Why was Two Harbors so named? (30) Describe Hibbing, Virginia, Eveleth, Chisholm, Gilbert, and Coleraine. (31) Why are Ely and Winton important? Locate International Falls.

SUGGESTIONS FOR COLLATERAL READING

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 McMurry, Chas. A., *Type Studies from United States Geography*, pp. 108-131, 154-174. *Larger Types of American Geography*, pp. 94-134.
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 Minnesota Historical Society Collections, *Bibliography*, Vol. II.

Minnesota State Board of Immigration, *Minnesota's Fiftieth Anniversary*.
 Neill, *Concise History of the State of Minnesota*.
 Pike, *The Expedition of Zebulon M. Pike to the Headwaters of the Mississippi, through Louisiana Territory and in New Spain*.
 Robinson, E. V., *Commercial Geography*.
 Semple, Ellen C., *American History and Its Geographical Conditions*.
 Seymour, *Sketches of Minnesota*.
 Schoolcraft, H. R., *Historical and Statistical Information Respecting the History, Condition and Prospects of the Indian Tribes of the United States*.
 United States Geological Survey, *Mineral Resources*, 1908.
 United States Geological Survey, *Monographs XLIII and XLV*.
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